

July 1985

Vol. 1 No. 12

U.S. \$3 CDN. \$3.95

Just for your
Sanyo MBC-550,
555 and 775

soft sectorTM

The Monthly Magazine For Sanyo Personal Computer Users

BEAT THE HEAT

Summertime Fun At The Keyboard

GRAPHICS:

Unfurl The 'Perfect'
Star-Spangled Banner

UTILITY:

A Window Into Memory
With Horizontal Scrolling

SIMULATION:

Escape The Trap
Of The Pixel Maze

ACTION:

Defend The Earth
From Alien Hordes

PLUS:

Create Big-Letter Signs
And Much More



MICHTRON is the #1 software publisher for the Sanyo 550/555 with over 40 different titles and more coming every day! We have games, utilities, and serious programs for home and business. All were written specifically for the Sanyo 550/555. All programs are guaranteed to perform as advertised. Write now for your free catalog.



MichTron

576 S. Telegraph
PONTIAC MI. 48053

ORDERS AND INFORMATION
(313) 334-5700

An INTELLigent COMmunications Program

YOU CAN SPEND MORE !!! WHY WOULD YOU ???

QUALITY SOFTWARE

Your PC can be more than a simple terminal, it can be a **powerful communications system** - with the proper software. **Don't be misled! Compare features of the various communications products BEFORE YOU BUY.** Buying overpriced software is no wise business decision. Don't you really want the best product - even if it costs less? The Computer Toolbox is pleased to offer you INTELLICOM - **Compare features and then decide!**

EASE OF USE

For those with limited telecommunications experience our documentation includes a **Beginner's Primer**. This primer clearly and simply explains basic terms and can serve as the total manual needed for using INTELLICOM. **We even include a complete sample logon session for Compuserve that demonstrates how to use that service.** For the advanced communicator there is complete documentation on all emulations and protocols used. Actually, **Help Screens** are available anywhere within the program by pressing a single key and the manual is almost unnecessary. COMPARE!

REAL TERMINAL EMULATION

INTELLICOM offers you real terminal emulation. Not just dumb TTY. Select from a menu of terminals that include **Digital VT100 and VT52, ADDS Viewpoint and 25, ADM3 and ADM5, Televideo 910 and 925**, and of course a simple TTY. By the way, **our VT100 emulation is extensive and has been tested on the VAX editor EDT** and several other mainframe editors - and it works fine. A real **"break key"** is implemented on all emulations. We even allow you to look like the **Compuserve Executive Terminal**. Your PC can look like any of the above with INTELLICOM and operate with your business or university computer.

Which terminal(s) does our competition emulate?

FILE TRANSFER CAPABILITIES

Of course INTELLICOM offers the ability to **send and receive files** - all kinds of files. You may send and receive simple ASCII files with XON/XOFF support (the most common for text) but you may also use the most popular **error checking protocol**, Xmodem. We support **both checksum and CRC methods in Xmodem**. This method of file transfer will allow you to transmit any type of eight bit data including an EXE file. You may purchase the source code for host support on several mainframe computers of this most popular error checking protocol for only \$10.00. We also support the **Compuserve A** protocol for error checking for use on that system. For those who may require it, we also include Hex file transfer capabilities and PTR/PTP support.

Why be tied to some proprietary, uncommon protocol?

MSDOS WINDOW

INTELLICOM offers you our **Window Feature** - a truly powerful function of the program. While logged onto your

favorite data base service or work computer you can select this feature and instantly have access to MSDOS where **you can run another program while INTELLICOM waits patiently in the background**. One of the most practical applications would be to run your word processor to create a document and then, by a single keystroke, return to INTELLICOM and send it - all without ever having to log off your system. What does the competition offer?

SPEED

INTELLICOM will operate at speeds up to **4800 baud on the Sanyo 550/555, 9600 on IBM PCs or look-a-likes and 19200 on the DEC Rainbow**. Just because you are using a 300 or 1200 baud modem now, **INTELLICOM will not become outdated** as inexpensive 2400 baud modems become available. You can do direct wire transfers between computers at really fast rates and not be tied to your modem's limitations. Compare Speed!

USEFUL FEATURES

INTELLICOM even allows you to **define ten keys to be any string of character (up to 80 char long each)**. Your ID number, password or any often sent string can easily be defined for each application you have. Of course you can **toggle your printer on and off with a single keystroke**. Yes, the **Hayes modem is supported as is the Anchor Mark XII**. Yes, **telephone directories** are supported (23 entries/directory and no limit to the number of directories on disk) and the program will continue to redial until the connection is made or you tell it to stop (persistence feature). Yes, INTELLICOM will work with any modem - if it is not an Anchor or Hayes all you will lose is the ability to have the computer dial the phone. **INTELLICOM will even recognize Michtron's DSDOS (2.11 version)** or standard MSDOS 2.11 and work properly with each. Of course the program is **menu driven** but we also allow you to use single keystrokes for the most popular features - no need to memorize cryptic commands. **Reasonable update policy** - previous purchasers may update to the most current version by returning their original disk and a check for \$15.00 Compare again!

SUPPORT

The Computer Toolbox is dedicated to dealer and end user support. **Our TOLL FREE number is available not only for orders but also for technical assistance**. If you have a question or problem call us. We pride ourselves on our after-sale support and would be happy to provide you with copies of complete testimonial letters. We are second to none in standing behind our products!

INTELLICOM is available for the Sanyo 550/55 and 775, IBM PC and JR, DEC Rainbow and VT180, and IBM PC compatibles. System requirements are 128K RAM, one disk drive and MSDOS 2.0 or higher.

IN THE FINAL ANALYSIS IT REALLY DOES COST LESS TO GO WITH THE BEST! ! !

INTELLICOM is priced at only \$69.95

Order INTELLICOM from your local Sanyo dealer or direct from:

THE COMPUTER TOOLBOX

1325 East Main Street — Waterbury, Conn. 06705

Toll Free Number 1-800-321-DATA

In Connecticut Telephone (203) 597-0273

MasterCard, Visa and COD orders are welcome. Specify DOS Version and Computer when ordering. Connecticut residents add 7½% sales tax — and \$5.00 for shipping.

soft sector

The Monthly Magazine for
Sanyo Personal Computer Users

Vol. I, Issue 12

July 1985

Editor and Publisher
Lawrence C. Falk

Managing Editor T. Kevin Nickols
Associate Editor Belinda Kirby
Technical Editor Danny Humphress
Submissions Editor Jutta Kapfhammer
Editorial Associates Monica Dorth, Tamara Dunn
Consulting Editors Gordon Monnier, Courtney Noe
Contributing Editors Fred Blechman,
Michael W. Ecker, Ph.D., Tim Purves,
Brian M. Stone, Charlotte A. Stone
Editorial Assistants Jody Doyle, Wendy Falk,
Debbie Hartley, Angela Kapfhammer,
Suzanne Benish Kurowsky,
Shirley Morgan
Technical Assistant Ed Ellers

Art Director Kevin Quiggins
Design Staff Tracey Jones, Heidi Maxedon,
Jerry McKiernan

Advertising Coordinator Doris Taylor
(502) 228-4492

Advertising Assistant Debbie Baxter

FPSS, Ag. Publications Enterprises, Inc.

President
Lawrence C. Falk

Editorial Director James E. Reed
Creative Director Sally Gellhaus

General Manager Patricia H. Hirsch
Assistant General Manager for Finance
Donna Shuck

Bookkeeper Diane Moore
Advertising Accounts Bev Taylor
Dealer Accounts Judy Quashnock
Administrative Assistant To The Publisher
Marianne Booth
Manager of Public Relations
Charles L. Springer

Director of Fulfillment Services Bonnie Shepard
Assistant Customer Service Manager Sandy Apple
Customer Service Representatives
Deidra Henry

Soft Sector on Disk Subscriptions Monica Wheat
Word Processor Manager Lynda Wilson
Research Assistants Judy Brashear, Laurie Falk,
Judi Hutchinson, Sharon Smith
Dispatch Janice Eastburn
Production Assistant Melba Smith

SOFT SECTOR — The Monthly Magazine for Sanyo Personal Computer Users (ISSN 8755-7460) is published every month of the year by FPSS, Ag. Publications Enterprises, Inc., 9529 U.S. Highway 42, P.O. Box 385, Prospect, KY, 40059, Phone (502) 228-4492. **SOFT SECTOR** — The Monthly Magazine for Sanyo Personal Computer Users, **SOFT SECTOR ON DISK** and the **SOFT SECTOR** logotypes are registered ® trademarks of FPSS, Ag. Second class postage pending at Prospect, KY and additional offices. **POSTMASTER:** Send address changes to **SOFT SECTOR**, P.O. Box 385, Prospect, KY 40059. Forwarding Postage Guaranteed.

Entire contents copyright © 1985, by FPSS, Ag. **SOFT SECTOR** — The Monthly Magazine for Sanyo Personal Computer Users is intended for the private use and pleasure of its subscribers and purchasers and reproduction by any means is prohibited. Use of information herein is for the single end use of purchasers and any other use is expressly prohibited. All programs herein are distributed in an "as is" basis, without warranty of any kind whatsoever.

Sanyo MBC-550/555 and 775 are registered ® trademarks of the Sanyo Business Systems Corp.

Subscriptions to **SOFT SECTOR** — The Monthly Magazine for Sanyo Personal Computer Users are \$28 per year in the United States, Canadian rates are U.S. \$35. Surface mail to other countries is U.S. \$64, air mail U.S. \$85. All subscriptions begin with the next available issue.

Payment accepted by VISA, MasterCard, American Express, Cash, Check or Money Order in United States currency only.

For Soft Sector Advertising and Marketing
office information, see Page 78.

CONTENTS

FEATURES

- **Sanyo Bigprint/Michael J. Himowitz** 10
Turning your printer into a headliner
- BASIC Training/Fred Blechman** 20
A look at SBASIC's 'utility' commands
- Mastering MS-DOS/Danny Humphress** 26
Further adventures of BATCh Man
- **Creating The Perfect
Star Spangled Banner/Thom Harris, Ph.D.** 28
Unfurling the flag with geometric perfection
- Vertically Mounting Your Sanyo/John R. Kelty** 36
Freeing up your computer desk top
- **Simply Amazing — A Maze
Escape Simulation/David Marsh, Jr.** 38
Searching for freedom among walls of pixels
- **Stellar Blast/Steven J. Baldwin** 52
Defending Earth with only three magic keys
- **Scrolling Down Memory Lane —
A Window Into RAM/David Neuendorf** 71
Horizontal scrolling and a look into memory

DEPARTMENTS

- Advertisers Index** 78
- Back Issue Order Form** 67, 68
- Business Sector/Charlotte & Brian Stone** 22
Solutions to your applications problems
- Clubs, Clubs, Clubs** 69
- **Input/Output/Tim Purves** 48
Answers to your technical questions
- Letters To The Editor** 6
- The First Great Soft Sector One-Liner Contest** 34
- Racksellers** 77
- Soft Soapbox/Lonnie Falk** 8
News and Comments
- Soft Talk** 66
New products and services
- Submitting Material** 65
- Subscription Information** 68

REVIEWS

- Sanyo MBC 550/555 Beginner & Intermediate Guide** 58
- SeekEasy** 64
- Speed Screen** 62
- TLS-Plus PC** 62
- Word Wiggle** 61

Cover illustration© 1985 by Wes Kendall

■ The small disk symbols appearing beside features and regular columns indicate that the program listings with those articles are on this month's **SOFT SECTOR ON DISK**, ready to LOAD and RUN. For full details, see the **SOFT SECTOR ON DISK** ad on Page 64.

Sanyo users get a NEW software deal . . .

NOW, Your Sanyo can Write Programs for You

Your computer is fantastically fast...once it knows what to do. You probably realize that a computer is the combination of hardware and software, working together smoothly, to give you what you want. Either one alone is useless. Software is really the key...the "mind" of a computer system. Every project or task you want to do requires a new specific software application to make your computer behave exactly the way you desire.

Of course you may be able to "force fit" your application into some existing canned package you have, but to really be flexible you need a separate program for your special purpose.

Until now, that meant you were forced to pay money for application software off the shelf, or if you could afford it, have it custom written for you, or if you were qualified, do it yourself...spending endless hours figuring it out and writing it. **Now, your computer can write individual application programs for you.** These programs are each separate, unique software programs that run in the standard BASIC on your computer.

Programs Without Programming

ICR FutureSoft has released the **NEW** and improved version of automatic program writers called **QUIKPRO+II**. It is a program that actually writes separate BASIC Programs for you...to do exactly **what you want to do**. And it's **simple and easy to use...you create a new program in minutes instead of hours.**

You can quickly generate a new program when you want it. You can generate thousands of different unique programs, each one standing alone as a complete program that runs in BASIC. Best of all, **you do not have to be a programmer to use it.** The QUIKPRO+II software becomes your personal programmer, waiting to do your work for you any time of day or night you choose to use it.

The All-In-One Program

The custom programs you can generate from the new QUIKPRO+II will let you perform Personal Filing, Fast Data Retrieval, including Changes, Deletions and Searches. You can selectively Print Custom Letters, all kinds of forms (if you have a printer). This new feature is called **Free Form Reporting**. You can even include calculations in the programs you create. QUIKPRO+II is perfect for creating inventory programs. You can use QUIKPRO+II to prepare letters and selectively address the letters to only certain people. And of course you can **SORT** your reports so that they print out information in the order that you want it, or print out only certain information. In fact, you can actually use QUIKPRO+II to create an easy to use Data management program or a simple spread sheet. You can do all of this and more with this All in One program...and the best part is that **you need no BASIC programming experience.**

How Does It Work?

You can do it simply by answering easy questions that appear on your screen. You won't have to learn any Computer commands or special Programming Languages. Instantly the QUIKPRO+II software instructs the computer to write efficient error free, BASIC Programs and puts the **Programs right onto your own disk, ready for you to use.**

The resulting custom program is truly a separate BASIC program. You can list it. You can modify it. You can customize it to your own liking. You can actually see what makes it tick

User Proven and Widely Used

QUIKPRO Software is **used worldwide in thousands of sites** by executives, schools, small businesses, universities and major companies like: Johns Hopkins

University, Chicago State, U.S. Dept. of Agriculture, General Electric, Duracell International, Ford Motor Company, Westinghouse United Technologies, American Express, University of Pennsylvania, City of New York and many, many more.

Read What Users Say. . .

From a GENERAL CONTRACTOR/CONSTRUCTION COMPANY owner:

*"The program seems to be good and I must compliment you on the documentation. It is the **best** of its kind that I have seen."*

From an INSURANCE AGENCY MANAGER:

"I would like to compliment you on an excellent...program."

From a HOBBIEST USER out in Oklahoma:

*"I thought I would drop a quick note about QUIKPRO. I have it running and it **will do** what I bought it for. I am very pleased with it..."*

This from a Vice-President of a Federal Savings & Loan:

*"In the past several weeks, I have used QUIKPRO software on four **different** programs. I am pleased with the results achieved so far and with your help over the telephone."*

Special Sanyo Deal

Sanyo users can get QUIKPRO+II direct at the introductory price of \$74.50 plus shipping and handling with a special 10 day satisfaction guarantee from delivery. You can order now by calling TOLL FREE 24 hours daily 1-800-824-7888, ask for operator 441. In California call 1-800-852-7777, operator 441. Specify your Sanyo Model. Send mail orders to: ICR-FutureSoft, 1718 Kingsley Ave., P.O. Box 1446-SA, Orange Park, FL 32073 Dealer inquiries call (904) 269-1918 QUIKPRO+II is also available on IBM-PC, TRS-80, CP/M 8" and Osborne.

LETTERS TO THE EDITOR

PAR
AVION

SEEING RED

Editor:

I have a Sanyo 555 and a Sanyo DM2112N green screen monitor. I have noticed that anything colored red is not visible. Is this a defect in my computer?

Harry Ludowise
Vancouver, WA

Editor's Note: You should remove the cover and rear panel from the computer (following the instructions in Chapter Six of the Sanyo Operator's Guide), locate the DIP switch assembly, and set DIP switch 1 to ON and the other three to OFF. Hopefully, this will solve your problem.

LAZY, LAZY

Editor:

Thanks for the AUTOEXEC.BAT tip in the May issue (Page 50). I've always wondered how to do it. Is there a way to get DOS and a program to load *completely* automatically without the two extra carriage returns? Is there a way to load the carriage returns into the batch file?

Dix Bruce
Oakland, CA

Editor's Note: If you don't care about entering the proper date and time (which you apparently do not if you are hitting RETURN and defaulting through them), you can just leave the DATE and TIME commands out of the AUTOEXEC.BAT file and the system will not prompt you for them, executing the program or other commands automatically.

ASSUMING TOO MUCH

Editor:

I am very pleased with SOFT SECTOR and what I have found in it. The programs are worthwhile and the patches invaluable. I would also like to comment on how pleased I was with John Kelty's article in the May issue (Page 87) on how to make your own keyboard extension cable. I was able to do this with only a little trouble and saved myself a few dollars.

I would like to pass along a little-known feature of WordStar that I discovered. I have never seen it in books or magazines. When doing a global find and replace on a very large file, it may take a half-hour or more for WordStar to complete the process one step at a time. Here is how you can instantly find and replace the entire file.

Go to the beginning of your file. Type ^QA for Find and Replace. Enter the string to search for, etc., and let the operation begin. Check to see if it is working correctly and, if so, type ^QC, the end-of-file command. You will be transferred to the end of your file, and the entire search and replace operation will be completed.

Marc Zeeder
Canby, OR

Editor's Note: It appears that the entry of any command will force WordStar to complete the operation immediately — hitting the PG UP or PG DN keys, for instance — and not just ^QC. Thanks for a very handy tip that most of us around here were unaware of and those who knew it assumed that everybody else already knew it. (Don't you just hate that!)

PF: I LOVE YOU

Editor:

The *WizStar* modification to *WordStar* (March '85, Page 8) is terrific. Having access to this program alone is worth the SOFT SECTOR subscription price. Thank you and thanks to J. Weaver Jr., the creator.

I would like to hear of creative uses for the PF keys, since they are such a waste as programmed by MicroPro. Please, readers, send in your ideas. For example, ^B^QP will reformat a paragraph and return the cursor to where it started. Another: ^QF.^M^M will jump the cursor to the end of a sentence (providing it ends in a period).

David Chapin
Cleveland, OH

SKIRTING THE LAW

Editor:

In regards to the reader who said that SCM told him to remove the Sanyo RF filter in order to correct a printer problem, I think that it should be pointed out that the filter is legally required to comply with FCC regulations. I am surprised that a reputable manufacturer would recommend removing it.

I believe that the real problem is poor design on the part of SCM. The Centronics-style parallel interface is susceptible to glitches from a number of causes, not just the RF filter. There are a number of ways to protect against this at little cost.

Gary Welch
Rochester, NY

Editor's Note: Our understanding (stress that) of the FCC regulations is that the end user can do anything

he wishes with these RF filters, as long as it doesn't interfere with the neighbors' reception of Hill Street Blues. If the equipment interferes with radio and TV broadcasts, then he becomes responsible for halting it, whether any filters have been tampered with or not.

I GOT RHYTHM

Editor:

In my opinion, the May issue was the best to date. Particularly impressive is Shawn Bucy's article on biorhythms (Page 36), a subject I did some research on in the early 1970s. In particular, I like his use of histograms to represent the sine wave nature of the biorhythm data.

There is a minor flaw in the program which causes erroneous results for any month in the first year of life. This is unfortunate because, other than the first day of life, all the cycles do not again start simultaneously until the 21,252nd day (58 years and 67 days later). This inconsistency in the program can be corrected by revising only one line as follows:

510 NEXT: IF Y2=YEAR THEN TOTAL=TOTAL-365

Without a doubt, SOFT SECTOR provides a service to users of the Sanyo 550, 555 and 775 computers that the manufacturer has neglected. We users really appreciate it.

Edward Sherman
Boca Raton, FL

Editor:

Somehow I missed the announcement of the First Great SOFT SECTOR One-Liner Contest, and it's probably just as well. From what I saw entered in the June issue, there's some really tough competition! I'd like to take my hat off to K.C. Stewart. When I typed in his one-line listing and ran it, I swear that my chin hit the floor. It's absolutely great! I played around with it half the night.

Thanks for a great one-liner, Mr. Stewart, and thanks to SOFT SECTOR for promoting the idea. Keep up the great work and give us more.

Dalton Seymour Jr.
Benton Harbor, MI

DIAL A FRIEND

Editor:

Please be so kind as to list my Sanyo 550/555 Bulletin Board System. I am looking for more users to exchange information and ideas of general interest to Sanyo owners.

My BBS is online 24 hours a day, seven days a week, and is sponsored by Computers Unlimited of Englewood, Colo. It is open to the public with only minimum requirements and is, of course, free: (303) 762-9122 at 300 and 1200 Baud.

Jack Cambell, SysOp
Englewood, CO

BANDING TOGETHER

Editor:

Thanks to your publication of my name as looking for Sanyo users, I am happy to announce the formation of the Lehigh Valley Sanyo Users Group. Anyone interested in further information can contact me at 1111 Mica Circle, 18017; (215) 691-2794.

John Orlando III
Bethlehem, PA

Editor:

I am an isolated user here in Lewiston, Maine, that would like to contact other Sanyo users in hope that there might be enough of them in the region to form a users' group. Please direct any responses to P.O. Box 8037, 04240.

Tom Gleason
Lewiston, ME

Editor:

Would you please mention our national users group in your next issue of SOFT SECTOR. We are either the largest Sanyo group in the country, or getting mighty close. (National Sanyo Users Group, P.O. Box 1358, 1000 South 38th St., 40965; (606) 248-1381.)

Merlin Gagle Jr., Pres.
Middlesboro, KY

Editor:

In the April issue I saw that there are no user groups identified as being from Pennsylvania. Please put me down as an individual wishing to start or join a Sanyo users group (24 So. Jones St., 17745).

Dennis M. Caprio
Lock Haven, PA

Editor:

We need a users' group in the Richmond, Va. area. I am willing to help get one started and can be reached at (804) 737-4498 at any time.

Allen E. Roberts
Richmond, VA

THE PRINTED WORD

Editor:

Several of your readers have requested information about CalcStar. I have found two sources. One is a book of critiques of various spreadsheet packages: *Spreadsheet Software from VisiCalc to 1-2-3*, Henderson, Thomas B., Cobb, Douglas Ford, and Cobb, Gena Berg, 1983, Que Corporation, Indianapolis, IN, \$15.95, paperbound. (See Chapter 3, "CalcStar," pages 57 through 74. Page 69 has a report on "bugs.")

Another is a "how-to" book of programs or templates using a variety of spreadsheets: *What If...? A Guide to Computer Modeling*, Simondi, Tom, 1983, The Book Company, Los Angeles, CA, \$19.95, paperbound. The author states that CalcStar and SuperCalc are quite similar and converts a listed SuperCalc program on break-even analysis to CalcStar format, which could be useful for someone wishing to use a SuperCalc book with CalcStar.

James Richards
Milwaukee, WI
Continued on page 76

MidWest Micro-Peripherals

Gigantic Sale!

Epson - Brother - Star - Sanyo - Zenith

PRICE GUARANTEE

We at Midwest Micro guarantee that we can save you up to 49% or more on your purchase of new fully warranted equipment and supplies. And we will still give you friendly, courteous service. Call today and Save With Confidence!

Get great hard copy and near letter quality with...



star SG-10
Price too Low to Advertise!
List \$299

(Replaces the Gemini 10X)

The SG-10 gives you enough versatility for home or office use. It operates bi-directionally at 120 cps and includes many special features such as near letter quality printing, easy access format switches for a wide range of character modes, friction feed for single sheets and tractor feed for fanfold paper, and even hex dump. Another special feature is the IBM character sets available at the flip of a switch. You get all of this plus a 2k memory buffer and Star's full 1 year warranty at a price you can afford!

Complete STAR Line... \$CALLS



brother
printer's give you all the features of a letter quality

NEW! and more with... HR-15XL
List \$599 \$CALL & Save \$15XL

The HR-15XL gives you Daisywheel printing and added attractions such as text reprinting, red printing, attachable cut sheet feeder and the exclusive Brother keyboard attachment.

Complete BROTHER Line...	List	Your Price
HR-10 (120CPS)	\$399	\$CALLS
HR-15XL (17 cps, 13.5" carriage, 3k Buffer)	599	\$CALLS
HR-15 & HR-15XL Keyboard Attachment	200	\$CALLS
HR-25 (23 cps, 16.5" carriage, 3k Buffer)	895	\$CALLS
HR-35 (32 cps, 16.5" carriage, 7k Buffer)	1245	\$CALLS
Brother 1024 (160 cps, 24 pin head, NLQ Mode)	1495	\$CALLS

Don't spend a fortune to own the world's most popular printer...

NEW!

EPSON LX-80
List \$349
Unbelievable Savings

The new EPSON LX-80 prints smoothly and quietly at a speed of 100 cps. With the superb near letter quality mode and full graphic capabilities as standard, your correspondence will be letter perfect. The LX-80 comes complete with a parallel interface to quickly connect it to virtually all computers. There are 160 typesets that are switch selectable and the LX-80 comes with EPSON's full 1 year warranty. Friction feed is standard and an optional tractor feed is available. Let the EPSON LX-80 print your next business letter or report.

Complete EPSON Line...	List	Your Price
LX-80 (100 cps, NLQ Mode, 80 Col.)	349	\$CALLS
RX-100 (100 cps, 136 Col.)	895	399
FX-80+(160 cps, 80 Col, 2k Buffer)	699	389
FX-100+(160 cps, 136 Col, 2k Buffer)	999	589
LQ-1500 (200 cps, NLQ Mode, 136 Col.)	1395	\$CALLS

Complete Systems

SANYO

Free Software



ZENITH

SAVE up to 49% off!

Computer Systems

Get IBM compatibility, improved keyboard, faster processing speed more memory capacity, free software, more expansion capability and unbelievable savings! Call today!

Prices subject to change and type errors

FREE CARD USE
Call Today!
Information - Ordering
1-800-423-8215
In Ohio 1-800-321-7731
CUSTOMER SERVICE (513) 663-4992

CASH PRICES Cert. Check, Money Orders, VISA or MC
CODs (Add \$5) AMEX (Add 4%) P.O.s (Add 5%)



MidWest Micro-Peripherals
(Division of Infotec, Inc.)
135 South Springfield St
St. Paris, Ohio 43072

CAC LANGUAGE TUTORS

FOR THE SANYO 55X

Exciting educational games to learn foreign vocabulary. Ideal for children and adults. Learn while playing.

SPANISH
FRENCH
GERMAN
ITALIAN
PORTUGUESE

\$39⁹⁵ Each

ALSO:

ENGLISH I for Spanish speaking
ENGLISH I for French speaking
ENGLISH I for Italian speaking
ENGLISH I for German speaking
ENGLISH I for Portuguese speaking

FRENCH I for Spanish speaking
FRENCH I for Italian speaking
FRENCH I for Portuguese speaking
FRENCH I for German speaking

ITALIAN I for Spanish speaking
ITALIAN I for Portuguese speaking
ITALIAN I for German speaking
ITALIAN I for French speaking

SPANISH I for French speaking
SPANISH I for Italian speaking
SPANISH I for German speaking
SPANISH I for Portuguese speaking

GERMAN I for Spanish speaking
GERMAN I for Italian speaking
GERMAN I for French speaking
GERMAN I for Portuguese speaking

PORTUGUESE I for Spanish speaking
PORTUGUESE I for French speaking
PORTUGUESE I for Italian speaking
PORTUGUESE I for German speaking

• DEALER INQUIRIES INVITED •

CAC BULK DISKS

LIFETIME WARRANTY!

\$135 ea.
5 1/4" SSDD
Qty. 10

\$155 ea.
5 1/4" DSDD
Qty. 10

DS QUAD (bx of 10) \$25

Best SANYO AUTHORIZED DEALER
in New York Metropolitan area. CALL
US for latest prices in computers, printers,
supplies and software.

COMPUTER ALPHA CORPORATION
P.O. Box 182, Brooklyn, NY 11217
24 HR BBS: (718) 596-5802

VOICE: (718) 855-9029
Mon.-Fri, 10 am-5 pm; Sat., 9-noon.

TO ORDER: send M.O. or cashier check.
Personal/company checks—allow 3 weeks
for clearance. Add \$3.50 For shipping.
CODS: add \$2. NYS residents add 8 1/4%
sales tax.

PROGRAMMERS

We are now reviewing programs
written for the 55X and Generic
MS-DOS. Call or write for information

SOFT SOAPBOX

There are some major developments in the world of Sanyo and it is certainly most appropriate that we let you know something about them. They will have quite an effect on the market in the coming months and, obviously, this directly affects you.

The catalytic force behind this change is the appointment of a whole new sales management team at Sanyo. Ed Goulart, who was at Compaq, has been named national sales manager and Sandy Waters has become marketing manager. Several others have been named to various positions. For that matter, Sanyo Business Systems has a new president, too, Eisure Tomochika.

This means names which were familiar to you — such as Art Shebar and Paul Wagner — are no longer with the company.

Along with the new team has come a new marketing plan which was officially announced at COMDEX in Atlanta recently. The new plan offers some excellent possibilities for better sales and better service for all Sanyo owners. At the same time, there are some new products as well, which will be reviewed as soon as working production copies are available to us.

In some ways, Sanyo is taking a leadership position with its new marketing plan. Although it was the first, it is not the only computer manufacturer to announce a new program in recent weeks. One of the reasons for this is obviously an effort to increase sales, but there is a genuine plan to upgrade support for the Sanyo line as well.

Sanyo now has four major service organizations located in different parts of the country and has given them some pretty stiff requirements. At the same time, these organizations are signing new dealers — and the requirements here are more strict than they were in the past.

Two of the major "new" things are repair and technical support. Sanyo is now going to require the purchase of repair kits by dealers and distributors. Goulart told me that the ultimate aim of this is to make repairs quickly and inexpensively in the field: "We shouldn't ever have to see a 'box' at our main offices again."

Sanyo will also start sales and technical support seminars and require attendance. This should mean you will be able to get more help from a dealer than has been the case in a number of instances in the past. While many dealers have given excellent support before, others have not. Sanyo says this is particularly true of mail-order dealers.

There *have* been some excellent mail-order dealers. There are in every field. But the old Sanyo dealer/distributor structure was so loose, Goulart told me, that "just about anyone" could be a dealer and could sell Sanyo's machines at just about any price he wanted.

Indeed, one part of the new Sanyo dealer agreement will have a chilling effect on mail-order sales. Goulart is concerned that mail order and support may not be able to go hand-in-hand. Now, for a dealer to sell by mail order, that dealer must have prior written approval from Sanyo.

So, look for an end to discount mail-order sales. At the same time, Goulart believes his new dealer pricing structure will be such that Sanyo products will be very competitive. And, he adds, local area support and repair capability should greatly boost overall sales of the Sanyo line. In fact, Goulart, Waters and others are counting on it.

We at SOFT SECTOR see these as bold moves on the part of Sanyo to upgrade the image of what is already acknowledged as an excellent product. And while we are sure there will still be mail order for non-Sanyo products available, we expect the new agreements will pretty well dry up the huge discounts which were sometimes available on computers by mail.

Goulart and Waters argue convincingly that, yes, these discounts did exist, but something had to be sacrificed to get them. What that was — they say

Continued on page 76



Can You Name a Dual-Drive Color PC That Runs Lotus 1,2,3 and Costs Under \$1500?

Hints

- It comes with a 14" RGB monitor much like the 14" monitor that comes with the \$2495 Leading Edge PC.
- It has dual 800K disk drives much like the \$2495 Tandy 2000, but it also has the ability to read and write to popular 160K, 320K, and 360K IBM-PC formats.
- It's an 8088, MS-DOS system with 256K of RAM, but it comes with a better free software bundle than the 8-bit Kaypro including MS-DOS 2.11, HAGEN-DOS, DOS-TUTOR, WordStar 3.3, EasyWriter, Spell, Mail Track, PC File III, FILEBASE, CalcStar, games, graphics, utilities, and two BASIC languages.
- Although it's not PC-DOS compatible it will run hundreds of the same programs as the IBM including dBASE II, Multiplan, the PFS series, Lotus 1,2,3 and even Flight Simulator.

• During the dog days of summer computer sales, we've lowered the prices of both our color and monochrome systems. You can receive a free booklet on these systems by calling our machine at 1-800-FOR-A-FOX, and leaving your name and address at the beep.

Your time is up the answer is:

Color Fox..... \$1497

also

Fox Jr. ... \$899 Silver Fox .. \$1297



Scottsdale Systems, Ltd.
617 N. Scottsdale Rd. #B, Scottsdale, Az 85257



(602) 941-5856



The Silver Fox is sold exclusively by Scottsdale Systems Ltd., 617 N. Scottsdale Road #B, Scottsdale, AZ 85257. Trademarks: Silver Fox, HAGEN-DOS, and Datamate, Scottsdale Systems Ltd.; WordStar and CalcStar, Micropro International; MS-DOS, and Multiplan, Microsoft Corporation; FILEBASE, EWDP Software, Inc.; dBASE II, Ashton-Tate, IBM-PC, and IBM-PC DOS, International Business Machines Corporation. Ordering: Telemarketing only. Silver Fox price is for cash, F.O.B. Scottsdale, prices subject to change, product subject to limited supply. We accept purchase orders from Fortune 1000 companies and major universities with good credit - add 2% Visa, Mastercard add 3%, AZ residents add 6%. Returned merchandise subject to a 20% restocking fee. Personal or company checks take up to 3 weeks to clear. No COD's or APO's.

printer utility will let you create
catching posters and add dramatic emphasis
our title pages and report covers.



By Michael J. Himowitz

When I first got my Gemini printer, I was fascinated by its block graphics capabilities. Being a newspaperman by trade, I thought it might be fun to use the printer as a typesetter of sorts, using those graphics to produce headline type.

The result was *Bigprint*. It will print title pages and report covers in large block letters of almost infinite variety, depending on the capabilities of your printer and your imagination. It will also mix lines of block letters with lines of standard printing, centering each line on the page.

In normal mode, it will produce six block characters per line on a standard nine-inch printer. If you have a 15-inch

printer or use condensed (16 or 17 CPI) type, you can get up to 10 characters per line. Lines printed in normal type may have up to 72 characters.

The block characters are created on a grid 11 spaces wide and eight spaces deep. Because printed letters are taller than they are wide and because there is space between each line, the *Bigprint* character still has a vertical appearance.

The appearance can be altered in two ways. First, each block character is composed by default of X's and spaces. The program allows you to change the 'X' to any character your printer will produce. This gives the characters an astounding variety of textures.

Second, the height-to-width ratio may be varied by changing the length of the linefeed on your printer (if your printer allows this). If you make the linefeeds small enough and use a solid block graphics character, you can produce solid type. The program allows you to send these kinds of commands directly to the printer.

The original *Bigprint* was written for the TRS-80 Color Computer. The problem with that machine is its 32-character display, which makes it impossible to preview *Bigprint* output on the screen. When I got my Sanyo, with its 80-column display, I saw the opportunity to change that. As a result, the program has a screen display option which you can use as a subroutine in other programs. It produces an attractive alternative to the SYMBOL command in displaying large block text.

Because the Color Computer uses Microsoft BASIC, and Sanyo BASIC is similar, the conversion was straightforward. The main problem was putting spaces between BASIC keywords and variables. The Color Computer doesn't require spaces; the Sanyo does. The only other hassle was making sure that lowercase input on the Sanyo would be treated the same as uppercase input. The Color Computer normally does not use lowercase.

With a few minor modifications, the program listed here will run on an IBM or any other computer that uses Microsoft BASIC's string handling routines. The only changes necessary are the elimination of the LINE commands (which frame the menu screens) and replacement of the SYMBOL commands used in menus with normal PRINT statements.

When you run the program, you will see a menu with three choices. They are:

- A) Set Printer Commands
- B) Enter *Bigprint* Message
- C) Set Block Character

Option 'A' allows you to send a string of commands to your printer. Use this to set condensed type (for 10 characters per line), change the linefeed length, or create boldface or italic type. The commands are in the form of ASCII decimal control or escape codes.

Enter one code per line. For example, on my Gemini-10X, the code for condensed type is 15. The codes to reduce the line feed to one-tenth of an inch are 27, 51, 10. Using *Bigprint*, I type 15 on command line one and hit RETURN. On command line two, I type 27 and hit RETURN. On command line three, I type 51, and so on.

Make sure your printer is online when you do this, because the codes are sent to the printer immediately, producing a single linefeed. The paper

(Mike Himowitz is system editor for The Baltimore Evening Sun and proprietor of Federal Hill Software. He may be contacted at 825 William St., Baltimore, MD 21230; 301-547-1447.)



EDUCATIONAL SOFTWARE

FUN WITH LEARNING

At last, a learning program designed especially for children 4 to 8 years of age. Watch your children spend hours learning about shapes and solving problems. Fun graphics, easy to use design. Have fun with learning. \$29.95



MATH CASTLE

Protect your castle from the attacks of the alien flying saucer using arithmetic. Answering the math problems correctly gives you the ammunition you need to save your castle and shoot down the enemy. \$29.95

MS-DOS COMPATIBLE BUSINESS SOFTWARE

OES INVENTORY

Designed for ease of use while still providing many features. Automatic reorder list, turnover, last date sold. Holds 1250-2800 accounts. Cash register function, prints receipts, sales totals, salesperson's commission and 9 departments. Calculates LIFO, FIFO or Weighted Cost methods of inventory control. Computes Cost of Goods Sold. \$99.95

OES ACCOUNTS RECEIVABLE

Complete billing system. Prints statements of account on computer or preprinted forms, ages accounts, finance rate chart, minimum payment chart. Holds up to 500 accounts. Complete audit trail is provided for safety. Integrates with the Order Entry and General Ledger programs to provide maximum efficiency and auto balance transfer. \$99.95

OES ORDER ENTRY

Invoicing with computer or preprinted forms. Integrates with the Inventory and Receivable programs to provide a complete sales system. Sales Journal records daily sales, Cost of Goods Sold and the Gross Profit Margin. Automatic Back Order list. \$99.95

OES GENERAL LEDGER

Income Statement and Balance Sheet. Holds 500 accounts. Accommodates one or several divisions or companies. Audit trail. Trial balance. Integrates with Accounts Receivable, Accounts Payable and Order Entry programs. Chart of Accounts. Easy to use and set up. \$99.95

OES ACCOUNTS PAYABLE

Tracks one-time and recurring payables. Holds up to 500 accounts. Integrates with General Ledger. Prints checks; you set the format. An optional voucher system is included. Menu driven. \$99.95

OES PAYROLL

Computes payroll for up to 100 employees. Printer required. Prints checks and employee pay slips. Computes local, state and federal taxes for any pay period. Salaried, hourly or piece work pay rates. Each employee has a file with employment information. \$99.95

MONEY ANALYSIS

Two amortization calculations. Mortgage analysis. Interest on savings. Installment payments. Great for real estate investors or anyone who needs to calculate payments. Menu driven and easy to use. \$39.95

POSTMASTER II

Complete mailing list. Easy to use. Up to 1600 names may be stored using a double drive system. Sorts by name or zip code. Formats labels for any size. Great for computer rolex cards. These and other features make this a great mailing program. \$49.95

APPOINTMENT BOOK

Plan appointments from now until 1999 with this program. Excellent graphic calendar for each month. Print out a list of appointments for each day. Data disk included. Great for work or home use. \$39.95

FINANCE MANAGER

Works like an accounts payable program, but for the home. Keeps track of items you want to include for your taxes. Program also comes with a graphic calculator and budget helper functions. \$39.95

GAME SOFTWARE

TRIVIA MANIA

The hottest new trend in games has gone computer! Several different trivia disks are available. Fun for the whole family. \$39.95

FLYBOY

With only 9 minutes of fuel left, you must land your aircraft safely. Graphic instrument panel. Pilot's license not required. \$39.95

BACKGAMMON

Plays just like the real thing. Graphic playing cards make this a very colorful game. There is never a boring minute with Black Jack. \$29.95

EDUCATIONAL SOFTWARE

BYTE BUSTERS

You are the "Byte Buster." Your mission is to clear all of the "Bytes" from the maze before the "Nybblers" put the bite on you. \$29.95

BLACK JACK

A fun strategy game with several skill levels. Play the computer or another person. Watch the computer play itself to learn. \$29.95

TOUCH SKILLS

A complete typing tutor for the beginning to intermediate typist. Typing drills, a graphic keyboard and game are included. \$39.95

BODY SYSTEMS

Skeletal, respiratory, digestive and circulatory systems are covered. A quiz and review are included. Excellent graphics. \$39.95

STATES & CAPITALS

Learn each of the fifty United States by their shape. Learn the capitals also. A fun program for learning about the U.S. \$29.95

INCHWORM

A learning game for children, a strategy game for adults. Guide your long-growing inchworm through different learning situations. \$29.95

SPELLING BEE

Learn to spell with your own list of words or use the computer's list of over 500 words of varying length. Make spelling fun to learn. \$39.95

FLASH CARD

Flash Card will sharpen your math skills in addition, subtraction, multiplication & division. Solve problems right on the screen. \$29.95

CALL: (206) 874-4044 OR (206) 952-4114



OLYMPIC
EDUCATIONAL SOFTWARE

1220 S. 356TH ST., SUITE 208W

P.O. BOX 3679

FEDERAL WAY, WA 98063

WE ACCEPT MASTERCARD, VISA, AND AMERICAN EXPRESS (INCLUDE CARD - AND EXPIRATION DATE). CHECK, C.O.D. OR MONEY ORDER. ALL ORDERS ARE SHIPPED UPS. FREE OF CHARGE PLEASE ALLOW 4 DAYS TO RECEIVE YOUR ORDER. WASHINGTON STATE RESIDENTS, PLEASE ADD 7.8% SALES TAX. DEALER INQUIRIES INVITED. PROGRAM SUBMISSIONS WELCOME

should be set so the print head is at the very top of a page.

When you are through entering commands, just hit RETURN with no other input at the command line prompt. Your codes will be displayed and you will be asked if they are correct. If they are, enter 'Y'. Any other response will repeat the printer command process.

You will then be asked to enter the codes that restore normal printing. This allows you to enter lines of standard type. The procedure is the same as for the first series of commands. The command code sequence for normal type on the Gemini, Epson and similar printers are 27 and 64. Check your printer manual for details. Once you have set the commands, you will return to the main menu.

Option 'C' will allow you to change the character that makes up the *Bigprint* letters. When prompted, just type in the ASCII code of the character you want. The permissible range is 33 to 254. Get these codes from the printer manual, not the Sanyo manual, because the non-alphabetic character sets on all devices are different. The default is the character 'X' which has an ASCII code of 88. You may not use codes less than 32 (these are reserved for printer control codes).

If you exercise this option, the computer will take about 30 seconds to change all the necessary strings before returning you to the main menu.

Option 'B' allows you to enter the *Bigprint* message itself. First you will be asked whether you want six or 10 characters per line. Remember that standard 10 CPI type on a nine-inch printer will yield only six characters per line. To get 10 characters, you must use condensed type or have a 15-inch printer.

Entering each line of the *Bigprint* message requires two operations. The first prompt asks whether you want the line to be in Standard or *Bigprint* type. Enter 'S' or 'B'. The second prompt asks you for the message itself. You can use the characters 0 to 9 and

A to Z. No punctuation marks or non-alphanumeric characters are allowed. If you want to add them, feel free to modify the program.

Error trapping is fairly solid. You will not be allowed to enter a non-alphanumeric character or more than the specified six or 10 characters per line. You may use upper- or lowercase letters. The program will convert lowercase to uppercase for output to the printer.

You may enter up to 15 lines in all. When you are through with the message, hit RETURN with no other input when prompted for Standard or *Bigprint* type. Your message will then be displayed. At the beginning of each line are the characters 'B' or 'S.' These stand for *Bigprint* or Standard type.

If you have chosen six characters per line, you will have the option of a screen display of your message. Then you will be asked if you want to go to the printer. Enter 'Y' or 'y' to commence printing. Any other response will send you back to the main menu. When the message has been printed on paper, you will be asked whether you want another copy. If you don't, type 'N' to return to the main menu.

For those interested in the structure of the program, I have used a number of arrays to set up the characters. The main variables are found in Line 90. The array G\$ consists of 41 elements that reference the DATA statements in lines 1200 through 1290. These are all the combinations of X's and spaces required to produce the 36 characters in the set.

In turn, these are referenced by the array labeled L, which is two-dimensional. The eight members of each element in this array refer to particular strings of X's and spaces. For example, G\$(7) looks like this: "XXX ." That's four spaces, three X's and four spaces. If you look at the DATA statement in Line 1410, you will see eight 7s. This tells the computer to print the string G\$(7) eight times. The result is the character 'I.'

You may notice that there are 40 elements in array L and only 36 characters. I left room here for some punctuation marks, but after mapping out and debugging 36 characters, my brain turned to Jello and I said, "Enough!" The characters begin with 'A' in Line 1330 and continue sequentially through the alphabet, followed by the numbers.

The program is well commented. Most of it is standard input and string manipulation. The tricky part is in lines 1700 through 2040. This is the routine that converts the message, character by character, into *Bigprint* output and centers each line on the page. The corresponding screen output routine begins at Line 2060. In retrospect, there are probably more elegant ways to do it, but this works, and that's what counts.

I had a lot of fun working it all out, and I hope you and your kids enjoy using the program. I'd love to see people improve on it. If you have questions, you can reach me at the address listed in the capsule bio, or by leaving CompuServe E-Mail (71655,1327).

Line	Function
90	Initialize Variables
130	Set up <i>Bigprint</i> characters
240	Display title screen
280	Enter <i>Bigprint</i> message
450	Review message entered
560	Set number of characters per line
670	Set printer commands
930	Set <i>Bigprint</i> block character
1100	The main menu
1220	Data statements for <i>Bigprint</i> character components
1130	Data statements for <i>Bigprint</i> characters
1720	Send <i>Bigprint</i> message to printer
2080	Send <i>Bigprint</i> output to screen
2510	Check each <i>Bigprint</i> line for proper character content
2670	Panic button in case of error

The listing: BIGPRINT.BAS

```
10 REM *****
20 REM ***** BIGPRINT *****
30 REM ***** BY MICHAEL J. HIMOWITZ *****
40 REM ***** SANYO MBC-550 SERIES *****
50 REM *****
```



```

60 REM
70 REM INITIALIZE VARIABLES, READ CHARACTER STRINGS
80 REM
90 DIM G$(41), L(40,8), J$(15), M(15), TF$(15), RW(20), RX(20)
100 BE=88
110 ON ERROR GOTO 2670
120 CLS:LOCATE 3,5:PRINT"ONE MOMENT PLEASE . . ."
130 FOR X=1 TO 41:READ G$(X)
140 NEXT X
150 FOR X=1 TO 36
160 FOR Y=1 TO 8
170 READ L(X,Y)
180 NEXT Y
190 NEXT X
200 RESTORE
210 REM
220 REM BIGPRINT TITLE SCREEN
230 REM
240 GOSUB 2450:COLOR 0,3,3:CLS:LOCATE 2,1:GOSUB 2080:LINE (4,4)-(635,195),,B:LINE
(7,7)-(632,192),,B:FOR DLY=1 TO 4000:NEXT:GOTO 1100
250 REM
260 REM ENTER BIGPRINT MESSAGE
270 REM
280 GOSUB 580:CLS:LOCATE 3,24:PRINT "ENTER BIGPRINT MESSAGE":PRINT
290 PRINT"YOU MAY ENTER UP TO 15 LINES WITH UP TO"NC"CHARACTERS IN EACH LINE.":P
RINT "YOU MAY TERMINATE THE MESSAGE AT ANY TIME BY STRIKING THE <RETURN> KEY"
300 PRINT "AT THE INITIAL LINE PROMPT. ";:INPUT"HIT <RETURN> NOW TO BEGIN.",PE
310 CLS:FOR J=1 TO 15
320 PRINT "LINE NO. "J;:INPUT" (S)tandard or (B)igprint";TF$(J):GOSUB 1040:IF TF
$(J)="B" THEN PRINT" ("NC" CHRACTERS MAXIMUM)":PRINT STRING$(NC,".")
330 IF TF$(J)="S" THEN PRINT "(72 CHARACTERS MAXIMUM)":PRINT STRING$(72,".")
340 IF TF$(J)<>"B" AND TF$(J)<>"S" AND TF$(J)<>"s" AND TF$(J)<>"b" THEN PRINT"
B' OR 'S', PLEASE":BEEP:GOTO 320
350 LINE INPUT J$(J)
360 IF TF$(J)="B" AND LEN(J$(J))> NC THEN BEEP:PRINT"LINE TOO LONG":PRINT"CORREC
TED ";:GOTO 320
370 IF TF$(J)="B" THEN GOSUB 2510
380 IF BADFLAG=1 THEN BEEP:PRINT "ILLEGAL ENTRY. YOU MUST USE CHARACTERS 0-9 OR
A-Z.":BADFLAG=0:PRINT:PRINT "CORRECTED ";:GOTO 320
390 IF TF$="S" AND LEN(J$(J))> 72 THEN BEEP:PRINT "LINE TOO LONG (72 CHARACTERS
MAXIMUM)":PRINT "CORRECTED ";:GOTO 320
400 NEXT J
410 J=J-1:GOTO 450
420 REM
430 REM CHECK MESSAGE BEFORE PRINTING
440 REM
450 CLS:PRINT"YOUR MESSAGE:":FOR K=1 TO J:PRINT TF$(K)+"> "+J$(K):NEXT:PRINT
460 REM IF 6 CHARACTER LINE, OFFER SCREEN PREVIEW
470 IF NC=6 THEN INPUT(1); "DO YOU WANT A SCREEN PREVIEW (Y/N)?",SP$:IF SP$="Y"
OR SP$="y" THEN CLS:GOSUB 2080:FOR DLY=1 TO 3000:NEXT:PRINT:INPUT "HIT <RETURN>
TO CONTINUE",PE
480 INPUT "DO YOU WANT TO GO TO THE PRINTER NOW? (Y/N) ",PN$:IF PN$<>"Y" AND PN$
<>"y" THEN 1100
490 REM
500 REM ***** EXECUTE BIGPRINT *****
510 REM
520 INPUT "POSITION PRINT HEAD AT TOP OF PAPER AND HIT <RETURN>",PE
530 GOSUB 1720:INPUT "ANOTHER COPY (Y/N)";ANOTHER$:IF ANOTHER$<>"Y" AND ANOTHER$
<>"y" THEN 1100

```



```

540 GOTO 520
550 REM
560 REM SET NUMBER OF CHARACTERS PER LINE
570 REM
580 CLS:PRINT:PRINT"          BIGPRINT":PRINT
590 PRINT"HOW MANY CHARACTERS PER LINE?"
600 PRINT:PRINT"THERE IS A 6 CHARACTER LIMIT AT STANDARD 10 CPI.":PRINT"10 CHARA
CTERS REQUIRES CONDENSED FONT OR 132-COLUMN PRINTER.":PRINT:INPUT"YOUR CHOICE (6
OR 10): ";NC
610 IF NC<>6 AND NC<>10 THEN 580
620 IF NC=10 THEN WIDTH 132
630 RETURN
640 REM
650 REM SET PRINTER COMMANDS
660 REM
670 GOSUB 2650:SYMBOL(122,20),"PRINTER COMMANDS",3,3
680 LOCATE 8,6:PRINT "You may enter up to 20 direct printer commands. They shoul
d be in the";LOCATE 9,6:PRINT"form of decimal ASCII control or escape codes. Co
nsult your printer";
690 LOCATE 10,6:PRINT "manual for details. You will be prompted for one command
at a time. To end";LOCATE 11,6:PRINT"the command string, hit the RETURN key wit
h no other input when prompted";
700 LOCATE 12,6:PRINT"for the command line."
710 LOCATE 15,6:PRINT"DO YOU WANT TO ENTER THESE ";:INPUT"PRINTER COMMANDS (Y/N)
";PC$
720 IF PC$<>"Y" AND PC$<>"y" THEN 1100
730 LOCATE 17,6:INPUT "MAKE SURE PRINTER IS ON LINE--THEN HIT <RETURN>",PE
740 CLS:CM=1
750 PRINT"COMMAND NO. "+STR$(CM)+": ";:INPUT RW(CM):IF RW(CM)=0 THEN 780
760 CM=CM+1
770 GOTO 750
780 CLS:PRINT"HERE IS THE STRING OF COMMANDS YOU HAVE JUST ENTERED":PRINT
790 FOR D=1 TO CM-1:PRINT"CHR$("+STR$(RW(D))+") ";:NEXT D
800 PRINT:PRINT:INPUT "IS THIS CORRECT (Y/N)";CR$:IF CR$<>"Y" AND CR$<>"y" THEN
PRINT "CORRECTED": GOTO 740
810 FOR D=1 TO CM-1:LPRINT CHR$(RW(D));:NEXT D:LPRINT
820 CLS:PRINT "INPUT THE COMMANDS THAT RESTORE NORMAL PRINTING.":PRINT "HIT <RET
URN> WITH NO OTHER INPUT WHEN FINISHED."
830 NP=1
840 PRINT"COMMAND NO. "NP": ";:INPUT RX(NP):IF RX(NP)=0 THEN 860
850 NP=NP+1:GOTO 840
860 CLS:PRINT"THESE ARE THE COMMANDS TO RESTORE NORMAL PRINTING":PRINT
870 FOR E=1 TO NP-1:PRINT"CHR$("RX(E)") ";:NEXT E:PRINT
880 PRINT:INPUT "IS THIS CORRECT (Y/N)";CR$:IF CR$="Y" OR CR$="y" THEN 1100
890 PRINT"corrected":GOTO 830
900 REM
910 REM SET LETTER BLOCK CHARACTER
920 REM
930 CLS:LOCATE 3,1:PRINT "THE CURRENT CHARACTER FOR LETTER BLOCKS IS "+CHR$(34)+
CHR$(BE)+CHR$(34)+", WHICH HAS AN ASCII":PRINT "CODE VALUE OF";:PRINT BE;:PRINT
". ";:INPUT "DO YOU WANT TO SUBSTITUTE ANOTHER CHARACTER (Y/N)";YD$
940 IF YD$<>"Y" AND YD$<>"y" THEN BE=88:GOTO 1100
950 PRINT:INPUT"ENTER THE ASCII CODE FOR THE CHARACTER YOU WANT ";BE
960 IF BE < 33 OR BE > 254 THEN BEEP:PRINT "ASCII CODE MUST BE BETWEEN 33 AND 25
4. ";:INPUT "HIT <RETURN> TO CONTINUE",PE:PRINT:GOTO 950
970 PRINT:PRINT "ONE MOMENT PLEASE, WHILE I CHANGE THE CHARACTER CODE..."
980 REM
990 FOR U=1 TO 41:FOR UU=1 TO LEN(G$(U))
1000 IF MID$(G$(U),UU,1)<>CHR$(32) THEN MID$(G$(U),UU,1)=CHR$(BE)

```



```

1010 LOCATE 20,20:PRINT "NO."U;
1020 NEXT UU:NEXT U
1030 GOTO 1100
1040 IF TF$(J)="b" THEN TF$(J)="B"
1050 IF TF$(J)="s" THEN TF$(J)="S"
1060 IF TF$(J)=" " THEN 410 ELSE RETURN
1070 REM
1080 REM ***** THE MAIN MENU *****
1090 REM
1100 COLOR 3,0:CLS:LINE (0,0)-(639,199),,B:SYMBOL(100,25),"BIGPRINT MENU",4,4
1110 SYMBOL(110,80),"A. SET PRINTER COMMANDS",2,2
1120 SYMBOL(110,120),"B. ENTER BIGPRINT MESSAGE",2,2
1130 SYMBOL(110,160),"C. SET BLOCK CHARACTER",2,2
1140 CH$=INKEY$:IF CH$="" THEN 1140
1150 ON INSTR("ABC",CH$) GOTO 1180, 280, 930
1160 ON INSTR("abc",CH$) GOTO 1180,280,930
1170 GOTO 1100
1180 GOSUB 670:GOTO 1100
1190 REM
1200 REM THESE DATA STATEMENTS REPRESENT THE COMPONENT PARTS OF THE LETTERS
1210 REM
1220 DATA "XXX      XXX",XXXXXXXXXXXX,"XXXXXXX      "," XXXXXXXXXX ","XXXXXXXXXXXX "
1230 DATA XXX  XXXX,"      XXX      ",XXX  XX XXX,"XXX      XXX ","XXX  XXX      "
1240 DATA "XXX  XXX  ",XXX  XXXX,XXXX  XXXX,XXX XXX XXX,XXX  X  XXX
1250 DATA XXXX      XXX,XXXXX  XXX,XXX  XXXX,XXX  XXXX," XXXXXXXX  X"
1260 DATA " XXX  XXX "," XXX XXX  "," XXXXX  ","      X      "," XXXXXXXX  "
1270 DATA "      XXXXXX "," XXXX      "," XXXX      "," XXXX      "," XXXX      "
1280 DATA " XXXXX      "," XXXXXX "," XXXXXXXX"," XXXX","XXX      ",
"XXXXXXXXXXXXX"
1290 DATA "      "," XXXX      ","XXXXXXXXXXXX "," XXXX      "," XXXXXXXX
XX"
1300 REM
1310 REM THESE DATA STATEMENTS REPRESENT THE LETTERS AND NUMBERS
1320 REM
1330 DATA 4,2,1,1,2,2,1,1
1340 DATA 5,2,1,5,2,1,2,5
1350 DATA 4,2,35,35,35,35,2,4
1360 DATA 5,2,1,1,1,1,2,5
1370 DATA 2,2,35,3,3,35,2,2
1380 DATA 2,2,35,3,3,35,35,35
1390 DATA 36,2,35,6,6,1,2,36
1400 DATA 1,1,1,2,2,1,1,1
1410 DATA 7,7,7,7,7,7,7,7
1420 DATA 34,34,34,34,1,1,2,4
1430 DATA 9,11,10,3,3,10,11,12
1440 DATA 35,35,35,35,35,35,2,2
1450 DATA 1,13,2,14,15,1,1,1
1460 DATA 1,16,17,14,19,18,1,1
1470 DATA 4,2,1,1,1,1,2,4
1480 DATA 5,2,1,2,5,35,35,35
1490 DATA 4,2,1,1,8,1,5,20
1500 DATA 5,2,1,5,2,1,1,1
1510 DATA 36,2,35,5,36,34,2,5
1520 DATA 2,2,7,7,7,7,7,7
1530 DATA 1,1,1,1,1,1,2,4
1540 DATA 1,1,1,21,22,23,7,24
1550 DATA 1,1,1,15,14,2,1,1
1560 DATA 1,1,21,23,25,21,1,1

```


SPEED RACER

by Bruce Hansen

The checkered flag drops as your pulse rises in this lively new arcade game. The road twists to the horizon on the 3-D panorama that sets the stage for the most exciting race the Sanyo has ever seen! Vie for time as you speed through the curves at incredible speeds. Step through the gears to stay ahead of the pack, but step lively since some will stop at nothing to see the end of the race, or the end of you! Four challenging raceways, complete with obstacles and colorful 3-D scenery, put your skills to the test in this Turbo™ type game.

128K Sanyo 550/555 (joystick recommended) ... \$34.95

DRIVE TIMER PLUS

by Paul McLeod

This trio of utilities is designed to protect and enhance the use of your disk drives and files. Since proper drive speed is so vital to file operation, this package features **TIMER**: a program that graphically displays any disk drive's motor speed and logs the results to disk. **ENCODE** protects your files from unauthorized access through the use of personal passwords. **FASTFILE** puts a multitude of disk commands (such as Move, Delete, Redate, Print, etc.) at your fingertips in simple, menu form. In one package MichTron brings you maintenance, protection, and convenience.

128K Sanyo 550/555 required \$24.95

TIME BANDIT

by Bill Dunlevy and Harry Lafnear

Action, adventure, and art unite in **TIME BANDIT**! Explore the realms of Time as you battle the Evil Guardians. Collect the Treasures of the Ages and unlock the doors to escape. But hurry Bandit, the Techno patrol is hot on your trail! Visit over **TWENTY** colorful adventure sites (in ANY order!) with over 15 levels in each. **THAT'S OVER 300 VARIATIONS!** TWO can even play at the same time—on their OWN windows! Two-player mode requires a joystick. This machine language epic will dazzle the fussiest graphic gawker and challenge the quickest arcade player. Beautiful scrolling landscapes, character animation, amazing sound, and **HUNDREDS OF SCREENS**—The conquest of Time and Space awaits you...

128K Sanyo 550/555
(joystick recommended) \$39.95

TYPE RIGHT

by Ken Olson

Whether you want to end the fumbling of hunt-and-peck typing, or simply improve your speed and accuracy **TYPE RIGHT** is the answer. It teaches touch-typing in a way that ends computer anxiety and keyboard fears. Written in **MACHINE LANGUAGE** to be fast and accurate, **TYPE RIGHT** never misses a key. Color graphics and large letters make **TYPE RIGHT** perfect for any age! Learn at your own pace; repeat a previous drill, or forge ahead to sample paragraphs. **TYPE RIGHT** offers friendly, menu-driven use, and keeps track of everyone's personal progress.

128K Sanyo 550/555 required \$34.95

CHECKMATE

by W. Fink & R. Vanderburgh

Chess lovers—if you're ready for the ultimate challenge, **CHECKMATE** is the answer! From the opening play you can see the computer "thinking" as it contemplates each move. This classic game has a level of play for every degree of skill: from novice, to tournament caliber for the expert! Superb graphics put you right across the table from the Master. And if you can't decide on a move, ask the computer to suggest one! You can even switch sides and save games to disk for future reference or replay. Match wits with the computer in the most challenging strategy game of all!

128K Sanyo 550/555 required \$39.95

MUDPIES

by Philip McKenzie and Jeff Sorenson

Take an exciting trip to the big-top with this colorful arcade game. Slings mudpies at frenzied clowns may seem like fun, but the clowns don't agree! They'll throw things back and try to catch you! Avoid danger, ward off the angry clowns, and grab a shake and fries at the same time in this unique game. Numerous challenge rounds, special prizes, 6 different screens, and special mud-slinging rounds make this a great addition to anyone's game collection.

128K Sanyo 550/555
(joystick recommended) \$34.95

GRAPHPAC

by Tim Purves

Announcing a **COMPLETE** graphics interface for Lattice "C", DeSmet "C", Turbo Pascal, and machine language. Add color, graphics, and even sound to languages that previously lacked any Sanyo graphic routines! **GRAPHPAC** gives the programmer a powerful set of graphic commands, with line, curve, and polygon drawing, text print, sine and cosine, joystick read, sound, paint, full Get and Put stamp functions, and many more. **GRAPHPAC** opens avenues for everything from technical illustrations to video games! It even uses stamps made on the **PICASSO** drawing system! Free your imagination from the language barrier; let **GRAPHPAC** put you in the picture!

Requires Sanyo 550/555 and Lattice "C", DeSmet "C", Turbo Pascal, or machine language assembler \$49.95

MichTron

576 S. Telegraph PONTIAC MI. 48053

ORDERS AND INFORMATION (313) 334-5700


```

1570 DATA 1,21,22,23,7,7,7,7
1580 DATA 2,2,32,30,27,29,2,2
1590 DATA 37,37,37,37,37,37,37,37
1600 DATA 38,40,7,7,7,7,7,7
1610 DATA 5,2,34,4,39,35,2,2
1620 DATA 5,2,34,32,33,34,2,5
1630 DATA 1,1,1,2,2,34,34,34
1640 DATA 2,2,35,5,2,34,2,5
1650 DATA 35,35,35,5,2,1,2,4
1660 DATA 2,2,34,34,34,34,34,34
1670 DATA 4,2,1,4,2,1,2,4
1680 DATA 4,2,1,2,41,34,2,4
1690 REM
1700 REM THIS SENDS BIGPRINT MESSAGE TO THE PRINTER
1710 REM
1720 FOR K=1 TO J
1730 IF TF$(K)="S" THEN GOSUB 1970:GOTO 1910
1740 FOR Y=1 TO 8
1750 LL=LEN(J$(K)):TL=LEN(J$(K))*13
1760 IF NC=10 THEN TL=INT((128-TL)/2) ELSE IF NC=6 THEN TL=INT((78-TL)/2)
1770 LPRINT STRING$(TL,32);
1780 FOR V=1 TO LEN(J$(K))
1790 IF MID$(J$(K),V,1)="0" THEN MID$(J$(K),V,1)="O"
1800 Z$(V)=MID$(J$(K),V,1)
1810 IF Z$(V)=CHR$(0) THEN Z$(V)=CHR$(32)
1820 IF V>LEN(J$(K)) THEN 1900
1830 M(V)=ASC(Z$(V))-64
1840 IF M(V)=-32 THEN M(V)=27:GOTO 1860
1850 IF M(V)<-6 AND M(V)>-16 THEN M(V)=M(V)+43
1860 LPRINT G$(L(M(V),Y))+"";
1870 NEXT V
1880 LPRINT
1890 NEXT Y
1900 LPRINT:LPRINT
1910 NEXT K
1920 RETURN
1930 REM
1940 REM
1950 REM ***** STANDARD LPRINTING *****
1960 REM
1970 IF TF$(K-1)="S" THEN LPRINT
1980 IF TF$(K-1)="B" THEN FOR U=1 TO 2:LPRINT:NEXT U
1990 LL=LEN(J$(K))
2000 TL=INT((76-LL)/2)
2010 FOR E=1 TO NP-1:LPRINT CHR$(RX(E));:NEXT E:LPRINT STRING$(TL,32)+J$(K)
2020 IF TF$(K+1)="S" THEN LPRINT
2030 IF TF$(K+1)="B" THEN FOR D=1 TO CM-1:LPRINT CHR$(RW(D));:NEXT D:FOR U=1 TO
3:LPRINT:NEXT U
2040 RETURN
2050 REM
2060 REM ***** SCREEN BIGPRINT ROUTINE *****
2070 REM
2080 FOR K=1 TO J
2090 IF TF$(K)="S" THEN GOSUB 2320:GOTO 2270
2100 FOR Y=1 TO 8
2110 LL=LEN(J$(K)):TL=LEN(J$(K))*13
2120 IF NC=10 THEN TL=INT((128-TL)/2) ELSE IF NC=6 THEN TL=INT((78-TL)/2)
2130 PRINT STRING$(TL,32);
2140 FOR V=1 TO LEN(J$(K))

```



```

2150 IF MID$(J$(K),V,1)="0" THEN MID$(J$(K),V,1)="O"
2160 Z$(V)=MID$(J$(K),V,1)
2170 IF Z$(V)=CHR$(0) THEN Z$(V)=CHR$(32)
2180 IF V>LEN(J$(K)) THEN 2260
2190 M(V)=ASC(Z$(V))-64
2200 IF M(V)=-32 THEN M(V)=27:GOTO 2220
2210 IF M(V)<-6 AND M(V)>-16 THEN M(V)=M(V)+43
2220 PRINT G$(L(M(V),Y))+ " ";
2230 NEXT V
2240 PRINT
2250 NEXT Y
2260 PRINT:PRINT
2270 NEXT K
2280 RETURN
2290 REM
2300 REM ***** SCREEN PRINT STANDARD TYPE *****
2310 REM
2320 IF TF$(K-1)="S" THEN PRINT
2330 IF FLAG=0 THEN PRINT:GOTO 2350
2340 IF TF$(K-1)="B" THEN FOR U=1 TO 2:PRINT:NEXT U
2350 LL=LEN(J$(K))
2360 TL=INT((76-LL)/2)
2370 PRINT STRING$(TL,32)+J$(K)
2380 IF FLAG=0 THEN FLAG=1:GOTO 2410
2390 IF TF$(K+1)="S" THEN PRINT
2400 IF TF$(K+1)="B" THEN FOR D=1 TO CM-1:PRINT CHR$(RW(D));:NEXT D:FOR U=1 TO 3
:PRINT:NEXT U
2410 RETURN

```

AA COMPUTER EXCHANGE

"SOUTH'S LEADING SANYO DEALER"

REQUEST OUR FULL SANYO CATALOG TODAY

ORDER LINE: 1-800-447-0088

INQUIRIES & FL: 904-388-0018

HARDWARE

Sanyo 550-2 w/Software ...CALL
 Sanyo 555-2 w/Software ...CALL
 System Cover Set ...12
 Sanyo 775 Color Port ...CALL
 512K Plug-In Memory Exp ...139
 512K Plug-In Plans ...10
 10 Meg Hard Disk ...1199
 360K Teac Drive (55B) ...129
 800K Teac Drive (55F) ...139
 64K Mem Exp (150 NS) ...10
 128K Mem Exp (150 NS) ...20
 Sanyo Graphics Board ...CALL
 Joystick (Adj. Self-center) ...19
 Sanyo RS-232 Card ...CALL
 RS-232 Card ...47
 300 Baud Volksmodem ...58
 300/1200 Auto-
 Volksmodem ...199
 RGB Monitor 13" ...269
 Sanyo CRT 50 ...CALL
 Sanyo CRT 70 ...CALL
 Green Monitor 12" ...89
 Amber Monitor 12" ...89
 Panasonic 1091 NLQ ...299
 Panasonic 1090 ...229
 Nashua DS/DD 5 1/4" ...16

Hermit's Secret ...\$17
 Phantom's Revenge ...17
 Word Wiggle ...24
 Munchkin ...17
 Eliza ...17
 Monster Rally ...17
MICHTRON
 Type Right ...27
 Solarsim ...38
 Calendar ...19
 Mudpies ...27
 Connerman ...30
 Picasso (256K) ...75
 DS DOS+ II 2.11 ...38
 DS DOS+ 1.25 ...22
 MI-Term (128K) ...60
 M-Disk (256K) ...27
 Freez Frame (128K) ...30
 MI-Key (128K) ...27
 Graffiti (256K) ...30
 Cashman ...27
 Demon Seed ...27
 DC-10 Flight Simulator ...30
 Rebound ...19
 Solitaire ...27
 Adventure Disk #2 ...30
 Adventure Disk #3 ...30
 Super Zap ...38
 Business Agreements ...38
 Major Motion ...24
 Quick & Simple ...38
 Soft Spool ...27
 Emperor ...27
 Time Bandit (128K) ...27
 Master Graph (128K) ...68
 Rebound ...19
 Mighty Mail ...75
 King Arthur ...19
 Thunder Chief (128K) ...27
 Joystick Ext. Cable ...22
 Tic Tac Toe ...19
 Printer Helper ...27

Transfer ...\$45
 Personal Money Manager ...38
MICROSOFT
 MS-DOS Guide ...18
 MS-DOS Prog. Ref. ...38
OLYMPIC
 Account Series (EA) ...75
 Postmaster II ...38
 Money Analysis ...29
 Finance Manager ...29
 Appointment Book ...29
 Touch Skills ...29
 States & Capitals ...23
 Body Systems ...29
 Trivia Mania ...29
 Flyboy Flight Sim. ...29
 Byte Buster ...23
 Flash Card ...23
 Blackjack ...30
 Spelling Bee ...30
 Recruiter ...60
A-OK
 Lotusan 550 ...47
 Star Polish ...110
 DOS-1 w/Print Screen ...46
 DOS-2 w/Print Screen ...56
 DOS-3 w/Print Screen ...66
 DOS-4 w/Print Screen ...66
COMPUTER TOOLBOX
 Intellicom ...57
U.S. DIGITAL
 CpEmulator ...73
 Prep ...45
 General Ledger ...150
2500AD
 8086 Macro Assembler ...89
TLS
 Sanyo Bonus Pack ...39
 Easy Planner/Filer ...23
 Sanyo 775 ...39
MANUALS
 Basic Reference ...29

BORLAND INTERNATIONAL

Turbo Pascal 3.0 ...54
 Turbo Tutorial ...31
 T Pascal w/8087 or BCD ...85
 T Pascal w/BCD & 8087 ...97
 Turbo Toolbox ...43

INFOCOM

Zork Series (EA) ...34
 Hitchhiker's Guide ...34
 Cutthroats ...34
 Infidel ...34

NORELL

LISP/B8 Intrp. ...34
 Computer Chef ...34
 Original Adv. ...17

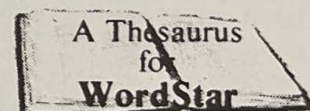
2726 PARK ST., JACKSONVILLE, FL 32205

Orders with cashiers check, money order and VISA/MC shipped promptly • For personal/company checks allow 3 weeks for clearance • CODs add \$3.00 • 15% restocking charge • All software sales are final • For VISA/MC add 3% • Shipping charges extra, \$3.00 minimum • Prices may differ in AA stores • Florida residents add 5% tax • Prices subject to change without notice

Find the right word

THE WORD FINDER

(Synonym Finder)



Multimate, Word Perfect

Improve your writing by finding the *perfect* word. Put your cursor on a word and call up a list of words with similar meaning. Pick one, and voila, your new word replaces your old word. No more fumbling for a book. It's so fast and easy you'll use it all the time. Special introductory offer, only **\$79.95!** (Regularly \$124.95.) Synonym Finder installs on most machines that run WordStar (3.3 or 3.0), Multimate, or Word Perfect. Specify word

proc., computer, operating system (MS/PC DOS or CP/M 80) and disk format. New database has 1/3 more words than Random House and uses 1/3 less disk space. Easy to install and operate. Highly rated by dozens of reviewers and users groups. Add \$2.50 shipping and NYS residents add sales tax. Okay! My check is enclosed for \$_____ (or charge my VISA/MC acct. #_____. expires _____ / _____).

Writing Consultants

Suite 349, 11 Creek Bend Drive - Fairport, NY 14450

Orders only: 800-828-6293 Info: 716-377-0130

dealers and distributors please call or write


```

242Ø REM
243Ø REM SET UP TITLE SCREEN MESSAGE
244Ø REM
245Ø J$(1)="SANYO":J$(2)="BIG":J$(3)="PRINT":J$(4)="BY MICHAEL J. HIMOWITZ":TF$(
1)="B":TF$(2)="B":TF$(3)="B":TF$(4)="S"
246Ø NC=6:J=4:CLS
247Ø RETURN
248Ø REM
249Ø REM ***** CHECK LINE FOR PROPER CONTENT *****
250Ø REM
251Ø FOR CHAR=1 TO LEN(J$(J))
252Ø CHAR$=MID$(J$(J),CHAR,1)
253Ø IF CHAR$=>"A" AND CHAR$<="Z" THEN 258Ø
254Ø IF CHAR$=>"Ø" AND CHAR$<="9" THEN 258Ø
255Ø CODE=ASC(CHAR$)
256Ø GOSUB 266Ø
257Ø IF CODE=>97 OR CODE<=122 THEN MID$(J$(J),CHAR,1)=CHR$(CODE-32)
258Ø NEXT CHAR
259Ø RETURN
260Ø IF CODE=32 THEN RETURN
261Ø IF CODE<48 THEN GOSUB 266Ø
262Ø IF CODE > 57 AND CODE < 65 THEN GOSUB 266Ø
263Ø IF CODE > 9Ø AND CODE < 96 THEN GOSUB 266Ø
264Ø RETURN
265Ø CLS:LINE (Ø,Ø)-(639,199),,B:RETURN
266Ø BADFLAG=1:RETURN
267Ø CLS:BEEP:PRINT:PRINT:PRINT "SORRY, BUT THERE HAS BEEN, AS THEY SAY IN THE T
RADE, A FATAL ERROR":PRINT:INPUT "HIT <RETURN> TO RESTART PROGRAM",PE:RUN

```

Great Software For Your Sanyo At Low, Low Prices

RAM Disk. MOR: An extremely flexible and versatile RAM disk, unlike any others you may have seen. May be removed by a single command, or reconfigured to a different disk size without having to reboot and recopy files. If the computer quits in the middle of a session, MOR lets you recover the RAM disk and your files may still be there. Also tells DOS to forever reload COMMAND.COM from drive A, so you need not worry about using the RAM as default. Automated installation on all versions of DOS 1.25 and 2.11. Runs on 128K systems, too. Only **\$24.95**

Spooler. SPUL: A multi-function spooling utility that provides 1 to 64K printer buffer. Unlike other spoolers, SPUL lets you pause and resume printing, or cancel everything in the buffer, all from the keyboard. DOS Control-P echoes are buffered. As if that's not enough, we have added a SCREEN DUMP capability that dumps any number of lines on the screen to the buffer. Now, tell us which program can dump the entire screen and return control to you in just one or two seconds! Requires any version of DOS 1.25/2.11 and any RAM size. Only **\$24.95**

Bibliography. An electronic marvel for modern scholars! Definition files and command files all properly set up for your DataStar and MailMerge to produce MLA style bibliography. Can be converted to any other styles. Saves you hours of frustration in creating your own. Ready for data entry. Can sort by any field. Number of bibliographic items limited only by your disk capacity. Many tricks included; serves as a tutorial in itself. Used by the author in his Ph.D. dissertation. Only **\$15.95**

Mailing List. Definition files and command files all properly set up for your DataStar and MailMerge to produce a variety of mailing lists to suit different needs. Number of records limited only by your disk capacity. Can sort by any field. Includes many tricks and tips and a command file to print envelopes. Can print 1 or 3-across labels. Originally developed for a magazine subscription agency to keep track of more than 100,000 subscribers. Why waste time creating your own when you can use our fully tested and debugged program? Only **\$12.95**

Chaucer Software

P.O. Box 2308
Princeton, NJ 08540
Telephone (609) 734-9016

Proportional Spacing. A program that automatically installs your WordStar to print in proportional spacing. This means such letters as "i" and "l" will occupy much less space than letters like "m" and "w," and the space in between words will be evenly spread out, resulting in a dramatically improved printout that looks almost *typeset*. You still get all the WordStar printing features, including right justification, boldface, underscore, superscript, etc. You get best results when you use a PS printwheel, but fine even if you use the ordinary non-PS 10 or 12-pitch printwheels. No crowded characters, even on one-word short lines. Comes with a disk and a manual plus a variety of printing tricks. Requires Juki, Brother, Silver-Reed, or any other letter-quality printers. Developed by the author to print his Ph.D. dissertation. **Extra Bonus for Juki 6100 printer:** Our Proportional Spacing program will also automatically install your WordStar to print French cedilla (ç) and German umlaut (ü), two foreign characters not on your keyboard. Now your Juki can print all the diacritical marks needed for French and German. Information on how to print the other four special characters (¢ - § £) is also included in our Manual. Fully tested on Juki 6100. All for only **\$19.95**

Juki 6100 Printer Accessories

Genuine Juki 6100 100-character Printwheels.		Only \$22.95 each
Roman PS	ABCDEFGHIJ~c~\$£~ç`abcde^:;<=>?	
Standard PS	ABCDEFGHIJ[Q]Δ`°abcde f ½ ¼ ¾ μ § £ ¥ !"	
Prestige Elite 12	ABCDEFGHIJ [\] ^ ` ~ abcde f []] ~ c ~ \$ £	
Joan Italic 10/12	ABCDEFGHIJ [Q] Δ _ ° abcde f ½ ¼ ¾ μ § £ ¥	
Mini Majestic 12/15	ABCDEFGHIJ I u v w x y z ½ ¼ ¾ μ § £ ¥ ! " # \$ %	

Check, Visa, MasterCard accepted
All U.S. orders shipped FREE, via First Class Priority Mail, in 24 hours. Foreign customers, please add U.S. \$10.00 per order (any item) for Air Mail. NJ residents only, please add 6% sales tax.

Moving right along in our training series, this month we look at the commands that make programming in BASIC easier and more efficient.

BASIC TRAINING

Sanyo BASIC's 'Utility' Commands

There is a whole host of BASIC statements that perform what might best be called "utility" tasks. Many of them have been covered in this or previous articles. The rest will be described here, plus additional information on some only touched on previously.

Some of these utilities are either seldom used, or beyond the scope of this series, and will only be described briefly.

AUTO Numbering

Very convenient when you plan to generate a long program, you specify the starting program line number and the increment, such as AUTO 100,10. This would automatically place the number 100 for the next program line, and then increase by 10 thereafter. Use the BREAK key to escape.

BEEP Command

Somewhat disappointing in the Sanyo 550 series is the lack of direct sound programming other than the BEEP command, which produces a tone for one-half second. You can imbed BEEP in a FOR/NEXT loop for a longer duration, but BASIC does not provide a way to change the tone.

Assembly Language Subroutines And Memory

Sanyo BASIC is a "high-level" language using keywords that pass through an "interpreter" and are translated to the language of ones and zeros (actually, voltages and no voltages) which the computer microprocessor and other integrated circuit chips can understand and process. The further a language is from the ones and zeroes, the higher the level — and generally the less

efficient in memory use and speed of operation.

"Assembly language" is a lower-level language that allows sophisticated programmers to communicate almost directly with the 8088 "brain" of the Sanyo. This makes things like sort and search operations significantly faster than BASIC — 300 times or more faster in some applications. Therefore, it is not uncommon for advanced programs to be written entirely in assembly language, or to be written in BASIC with assembly language subroutines.

Another area reserved for advanced programmers is the user memory. Various areas of memory are "mapped" for different functions and can be modified by proper programming. Sanyo has not provided much detailed information on this usage, and it takes special techniques to utilize the BASIC keywords that address these areas.

Various BASIC keywords are used to branch to assembly language routines from BASIC; to clear, segment and rearrange memory areas; to look at or change memory or variable locations; or to perform other functions beyond the scope of this article. They are: CLEAR, CALL, DEF USR, USR, PEEK, POKE, SEG, and VARPTR. Descriptions of their use can be found in advanced texts.

Going Back To MS-DOS

The keyword SYSTEM will return you from BASIC to MS-DOS. In so doing, you will lose your BASIC program in memory, so be sure to SAVE it first if you plan to use it again.

Another way to return to MS-DOS is to press the Reset button on the left side of the keyboard above and to the left of the PFI key. In this case, be sure you have an MS-DOS system disk in

By Fred Blechman

Soft Sector
Contributing Editor

(Fred Blechman, an acknowledged authority on home computers, has written several articles and books related to microcomputers. He is self-taught in electronics and computer BASIC programming and specializes in writing for beginners. This article is based on material from a book by the author, Sanyo MBC-550/555 Beginner/Intermediate Guide, now available from Blechman Enterprises, 7217 Bernadine Ave., Canoga Park, CA 91307; 818-346-7024.)

Copyright© 1984 by Fred Blechman

the drive or your computer will get lost looking for the "system." If this happens, remove the non-system disk from the drive, put in a system disk, flip down the lever and press the Reset button again.

Program Debugging

Creating a BASIC program can be a very rewarding — or frustrating — experience. When the program does exactly what you want it to, it's rewarding. When it does something you don't want or expect it to do, you can either become frustrated, or go on a "bug hunting" expedition.

Actually, one of the first big computers had a problem of attracting moths and other flying bugs that would get into the circuitry and cause short circuits. These computers had to be "debugged" periodically, and the term now refers to finding the flaws in the program that cause it to malfunction. Actually, unless there is a hardware problem, computer programs don't malfunction. They do exactly what you think you tell them to do, even if it's not what you *think* you're telling them to do!

To help in your investigation of a stubborn program, you can type TRON and press ENTER at the Ready prompt. The next time your program is RUN you will see the line numbers of the program printed as they are executed. TRON stands for "TRace ON." To disable this function, use TROFF for "TRace OFF."

Unfortunately (very unfortunately) Sanyo BASIC disables the keyboard (except for BREAK or Reset) while a program is RUNNING, unless the program is specially written to scan the keyboard. This means you normally can't interrupt and continue a program neatly without disrupting the screen display with a BREAK key message. However, you can STOP a program anywhere you desire by using the STOP statement within the program. Although this will still print a "Break in XXX" message, at least you can STOP it at a particular place. Resume with CONT, just as with BREAK. This can be useful in debugging.

Another debugging technique, while we're on the subject, is to use PRINT statements in the program at strategic

places to see the value of variables at that point in the RUN.

How's Your Memory?

If you suspect you may be getting close to the limit of your user memory, you can always find out how much is left with the PRINT FRE statement. This will show the amount of free user-available decimal bytes of memory remaining. You can use ?FRE from the keyboard, or within a program. The question mark, if not in quotes, means PRINT to the BASIC interpreter and does not need to be followed by a space.

Communication Keywords

If you've equipped your Sanyo with the optional RS-232 interface board, or you get into assembly language programs that address peripherals (printer, plotter, light pen, modems, or other devices), you are dealing with "ports." These are interface connecting points and the BASIC keywords COM, INP, OUT, INIT, INPUT\$ and WAIT deal with enabling, disabling, trapping, receiving and sending communications using these ports. Their specific use is left to advanced programmers.

Keyboard Scan

A powerful command used to scan the keyboard for specific (or no) key depression is the keyword INKEY\$. This is commonly used to delay processing at defined points in a program until a certain key (or any key) is pressed. Here's an example:

```
10 FOR X=1 TO 25
20 PRINT "This is a test."
30 IF INKEY$="" THEN GOTO 30
40 NEXT
```

As long as no key is pressed, INKEY\$ reads a "null" — no character. The program stops at Line 30, looping back on itself until the INKEY\$ keyboard scan detects a key pressed. Since this is no longer a null, the program continues to the next line.

INKEY\$ is "blind" to some keys (CTRL, SHIFT and some others) or sees multiple responses on others (PF keys and "00"), so it's best to use the space bar or ENTER key for entry. The BREAK key will still BREAK the program.

For example, you could specify a particular key by changing Line 30 to:

```
30 IF INKEY$="g" THEN GOTO 40
ELSE 30.
```

You will sometimes see Line 30 this way:

```
30 A$=INKEY$: IF A$="" GOTO 30
```

Printer Head Position

Very rarely used and peculiar to IBM PC and Sanyo BASIC, LPOS reports the position of the last character in the printer buffer. Most modern printers contain a line buffer and the line does not actually get printed until a carriage return is received by the printer. It conceivably might be useful to know, before a line is actually printed out, where the printer head is located — not physically, but in the printer buffer — so that it may be advanced to, say, the next column. PRINT LPOS will give you that number, with '1' as the first (left-most) position.

SWAPPING Variables

Useful in BASIC sorting techniques, where array variables are interchanged, is the SWAP command. Here's a simple example:

```
10 A=30:B=20:C=10
20 PRINT A,B,C
30 SWAP A,C
40 PRINT A,B,C
```

The variables must be the same type; that is, numerical are SWAPPED with numerical, and strings with strings. Here's a quick "sex change":

```
10 A$=Harry:B$=Mary
20 PRINT A$,B$
30 SWAP A$,B$
40 PRINT A$,B$
```

Remaining Keywords

Up to this point in this series we've covered all the Sanyo BASIC keywords, in detail or with a brief description, except for those used for color and graphics. Those will be covered in the next few articles in this series on Sanyo BASIC.



BUSINESS SECTOR

CHARLOTTE & BRIAN STONE
Soft Sector Contributing Editors

The following is an open letter to all of our readers who have been having problems with the Panasonic KX-P1090/91/92 dot matrix printers. The most common problem is dropping characters randomly in text and not in the same place when reprinting the text. Next is adding characters or incorrect tabbing.

It seems that there are at least two causes. The first is a fault with the printer itself and the second is the MBC-550 series computer. We have received letters from end-users who have had these problems and now have them solved. The following information is being furnished so that you, the user, can determine which route you would like to pursue. We are not making recommendations.

All of the "fixes" which follow should be done by a competent service technician and not the end-user. Remember, if you open the product you may void your warranty. SOFTSECTOR magazine, and Charlotte and Brian Stone cannot be held responsible for any damages which

(Charlotte A. Stone, office manager for the Detroit office of the Shaw/Walker Co., has been using a Sanyo computer in her daily work routine since October of 1983. Brian M. Stone has been using a variety of Sanyo computers since May of 1983. Charlotte and her husband, Brian, have been involved with computers since July of 1978 and presently own and use five computer systems on a daily basis, three of which are Sanyos.)

users may cause their printers or computers as a result of the following information.

The fix will be credited to the individual who furnished it.

If a KX-P1091 was made before October, 1984 there is a possibility that Integrated Circuit #15, a 74LS00 is not able to switch fast enough and should be replaced with a 74LS132. If you have a KX-P1092, the 74LS00 to be replaced is Integrated Circuit #20. This fix, and any other, should be done by a service technician.

— Furnished by John Hornung

I have a Sanyo MBC-555-2 and a Panasonic KX-P1091 printer. The problem with my computer and my KX-P1091 was "FL13." The repair ticket indicated that the service center removed and jumpered FL13 and the problem has been solved. (All of the Sanyo MBC-550 series computers have a series of filters on the output of the printer port.)

— Furnished by Stephen Braden

Recent Panasonic KX-P1090/91 printers have been modified by the manufacturer and do not seem to have the problem of adding or dropping characters. All of the older units which have these problems can be repaired at a Panasonic service center. If you purchased your printer by mail order, call (210) 348-5337 for the address of the nearest service center. Then call the service center and tell them it needs the modification to operate with a Sanyo computer.

— Furnished by Ralph Tilney of
Electronic Insight

Q. *I have an Epson FX-80 Version 3 and the initialization and de-initialization sequences are different than what was*

"C/80 . . . the best software buy in America!"

Now available in MS-DOS

—MICROSYSTEMS

Other technically respected publications like Byte and Dr. Dobbs' have similar praise for **The Software Toolworks' \$49.95** full featured 'C' compiler for CP/M® and HDOS with:

- I/O redirection
- command line expansion
- execution trace and profile
- initializers
- Macro-80 compatibility
- ROMable code
- and much more!

"We bought and evaluated over \$1500 worth of 'C' compilers . . . C/80 is the one we use."

— Dr. Bruce E. Wampler
Aspen Software
author of "Grammatik"

In reviews published worldwide the amazing **\$49.95 C/80** from **The Software Toolworks** has consistently scored at or near the top — even when compared with compilers costing ten times as much!

The optional **C/80 MATHPAK** adds 32-bit floats and longs to the C/80 3.0 compiler. Includes I/O and transcendental function library all for only **\$29.95!**

C/80 is only one of 41 great programs each **under sixty bucks**. Includes: LISP, Ratfor, assemblers and over 30 other CP/M® and MSDOS programs.

For your **free** catalog contact:

The Software Toolworks

15233 Ventura Blvd., Suite 1118,
Sherman Oaks, CA 91403 or call 818/986-4885 today!

CP/M is a registered trademark of Digital Research.

shown in the original "Your Printer Can Shine With WordStar" article by Brian Stone (August '84). Mine works and his does not. Why? Also, I have not been able to get italics, super- and subscript to work correctly; they go on but will not turn off.

Karl D. Scheffer
Scotia, NY

A. When the original WordStar article was written for the magazine, I was working with information that was then current. I am sure there have been many changes and updates to the Epson line of printers. My first suggestion would be that if it works, don't fix it. By this, I mean that if you have found something that works as well or better than the article, by all means use it. If your printer is a Version 3, then it is newer than the information I was using.

Regarding super- and subscript, italics, condensed type, etc., if it goes on but will not turn off, you have not installed the codes correctly. Take another look at the magazine article and carefully substitute the codes from your manual. If this does not work, send me copies of the control and escape sequence pages for your manual and I will try to help you.

Q. I have a BMC model BX-80 printer and have not been able to get all of the features of WordStar that I would like. Can you help?

Stephen G. Chandler
Reistertown, MD

A. After comparing your manual copy with an Epson manual, I have found that your manual is an exact copy

of the Epson and quite a few of the clones. If you will install your WordStar with the Epson choice from the menu, you will be well on your way to success with your BMC BX-80 printer. If this is not enough information, then you will have to let me know just what you desire and possibly we can get you running.

Q. I would like to install WordStar so that it will pause for paper changes if I press the ESCAPE key after giving the filename to print. All of the other questions would be answered correctly. I do not like to have to go through the menu each time to get to the "Pause for Paper Change?" question. I use a Sanyo PR-5000 daisy wheel printer with cut sheet paper. Any ideas?

Bill Hibbets
Tempe, AZ

A. The Install program for WordStar does not make provisions to change the default setting from continuous feed to cut sheet paper. As a result, I do not have a way for you to make this change.

There is a way which should work without installing WordStar. At the top of each page of your letter, put the "Print Pause" control code ^PC. This should be at the top of all pages except the first page. After you insert your next sheet of paper you will be asked to press 'P' or ^KP, depending on where you are printing your letter from — the main menu or from the text itself.

Q. In CalcStar, is there a way to copy data only from one file to another? I have three files: SALES85, SALES84

SYSTEMS PERIPHERALS CONSULTANTS

Presents

SPECIALS FOR

SANYO • PCjr • KAYPRO

(1100, 550, 775)

(all models)

If you own or are about to purchase one of the above computers, call SPC first for the best prices on the entire system, including the Hard Disk Drive. SPC can provide a **COMPLETE SYSTEM** for substantially less than the total cost of the individual parts. This is a cooperative marketing effort so **DISTRIBUTOR INQUIRIES ARE WELCOME**. We support the widest variety of fixed and REMOVABLE drives available. We have what you need for **all Z80 and MSDOS Systems**.

Call now (619) 693-8611

SYSTEMS PERIPHERALS CONSULTANTS

9747 Business Park Avenue • San Diego, CA 92131

**LOOK!
COMPUTERS
TOO!**

SANYO
Video Board OK

**Hard
Disk Drives
PCjr For**

KAYPRO

DISKIT 5.7 Mb. EXT. (1st come...)	\$ 795
DISKIT 10.8 Mb. EXT.	\$1295
DISKIT 10.8 Mb. INT. you do it EZ	\$1195
SANYO 550-2XT (10 Mb. INT. System)	\$1895
KAYPRO 2X + 10.8 Mb. formatted	\$2595
KAYPRO 2/84 + 10.8 Mb. formatted	\$1995
DISKIT 22 Mb. EXT.	\$1995
DISKIT 34 Mb. EXT.	\$2695
DISKIT 5R (5 Mb. Cartridge drive)	\$1495
DISKIT 10R (10 Mb. Cartridge drive)	\$2195
DISKIT 10 + 5R (Combo)	\$2490
DISKIT 22 + 5R (Combo)	\$2990
DISKIT 10 + 10R (Combo)	\$2790
DISKIT 22 + 10R (Combo)	\$3190
BIG! { ULTRASTORE 70 Mb. (30 ms) } FAST!	\$3995
{ ULTRASTORE 140 Mb. (30 ms) }	\$4995
ONE YEAR WARRANTY ★ CASH DISCOUNTS	

and BUDGET85. I want to take the year-to-date data from prior year's sales and this year's budget into this year's sales report, then show a variance for each with respect to this year's actual.

I tried the MERGE command, but this copies data and formula, so the recalculation command changes the data.

John B. Ayers
Providence, RI

A. To copy the current value of a formula from one spreadsheet to another without copying the formula, you need to use either an extra row or column at the extreme bottom or right side of your current spreadsheet and define them as equivalent to the cells containing the formula.

For example, if your year-to-date sales total happens to reside at the bottom of your current spreadsheet in cell B15 which contains perhaps the formula +SUM(B3>B14), then you could enter in cell B16 the formula +B15. This cell would then copy the results of the formula in B15 but not the formula. Line 15 could be saved as a separate file with a partial save, and later merged into a new spreadsheet as a carry forward total able to be manipulated with formulas in the new spreadsheet. If your spreadsheets are horizontal instead of vertical, the same thing can be done in an extreme right-hand column.

Q. First, I was wondering what FormSort is looking for when it asks for options. When I call up FormSort just by itself (without naming an input file), the computer says: "Error: No input files specified. Example: A>FORMSORT

OUTDEF/options INDEF1 INDEF2 . . ." I understand that FormSort wants me to name an input file. I also understand that if I don't give it anything else, then it says it assumes that the output file will be the same as the input file. But what are the options?

Also, could you explain the INDEF1 and INDEF2? Do these refer to form definition files? Is this saying that FormSort will merge two or more files? How does this work?

In the ReportStar Training Guide, at the bottom of Page 5-11, it says, "You can use FormSort to sort data files without also creating index files, or to create index files without sorting data files." Can you explain more about this?

Next, I wonder if you could tell me something about Redit. I wanted one field in my report to be a calculated string field, but I wanted it to be calculated from fields in the input file. (I wanted the field to read "J. Smith" — a calculation from fields containing the information "John" and "Smith" in the input file.) It seemed, however, that Redit was allowing me to calculate only from fields that were already in the report. Is there a way to do what I'm asking?

Mark Silverstein
Bloomington, IL

A. FormSort works from a single line command. The format is as follows:

```
A>FORMSORT OUTPUTDEF/OPTION INPUTDEF1 INPUT
DEF2 INPUTDEF3 . . .
```

OUTPUTDEF is the name of the output definition file. You

★ SANYO 550/555 ★ IBM-PC ★ PC jr. ★ IBM Compatibles ★ TANDY 1000/1200/2000 ★

#SS1 — IQ Builder \$8.95ppd.
Numbers and Number Series
Analogies Drill
Synonym Drill
Antonym Drill

Super Sampler Diskette \$5.00ppd.
Craps — A Las Vegas Dice Game
The Financial Wizard
Calculate Remaining Balance on a loan
Polygons — A Demonstration of Graphics
Computer Spelling Bee
Kena — A Number Guessing Game
Maxit — High Score Numbers Game
The Amazing Maze Generator
Blackjack — The 21 Card Game
The CIA Mystery Adventure

SUPER MAILING LIST
\$14.95 Postpaid

Add, change, delete names, addresses and phone numbers with 8 category flags to select on. Prints lists or labels. Sort on zip or names. A random access tutorial in itself. A SUPER VALUE!

#SS6 — Financial Disk \$8.95ppd.
The Financial Wizard
Linear Regression Analysis
Personal Budget Analysis
Complex Income Averaging for Taxes
Lease/Buy Advantages Comparison
Continuous Compounding of Money with Options
Calculate Future Value of an Investment
Determine Accrued Interest and Maturity of Bond
Calculate Remaining Balance of a Loan
Mean Variance & Standard Deviation Analysis

#SS2 — Young Folks Diskette . \$8.95ppd.
Rock Stone & Scissors Game
Concentration Board Game
Math Dice
Snoopy Display or Poster
Spelling Game
Hangman Guessing Game
Think of the Computer's Animal
Tic-Tac-Toe
Reading Skills Drill
Hide & Seek

GOOD STUFF!

Looking for good low-cost programs for your computer, as well as good, solid information? You've found it!

Business, Financial, Games galore, Educational, Utilities and Graphics. They're all here! There are presently 12 disks and each has 7-12 programs. They are all menu-driven, listable and unprotected. Don't take our word for it, listen to what Dr. Michael Ecker, contributing editor to Soft Sector has to say: "I would recommend these programs as an excellent value, they are close to professional in quality at public domain prices . . . get all you can before Computer Solutions comes to its senses. I don't know how they do it!" With your order we will include our full catalog with 100's of products at discount prices and an issue of our information-packed newsletter.

★ SPECIFY COMPUTER TYPE WITH ORDER ★

COMPUTER SOLUTIONS

P.O. BOX 354

888 S. EIFERT

MASON, MICHIGAN 48854

(800) 874-9375 for Orders

(517) 628-2943 for Info. & Mich.

MONEY-BACK GUARANTEE

Phone Orders Welcome - Quick Service

#SS3 — Arcade Disk \$8.95ppd.
Ping-Pong
Defend the Earth
Shooting Gallery
Spinout
Ghost Gobler
Barricade
Motorcycle Jump
Startrek

#SS4 — Strategy I \$8.95ppd.
Ancient Gomoku
Beat The Taxman
The Challenging game of AWARI
Hamurabi - You Are the King of your Kingdom
Desert Survival Simulation
Your The General in this WAR
FLIPPER - A Challenging Logic Game
BATTLESHIP
Computer Football
The Game of NIM

#SS5 — Card & Casino \$8.95ppd.
Slot Machine
Craps
At the Horse Races
Kena
Crazy Eights Card Game
Baccarat
Computer Blackjack
Yahtzee
Roulette

#SS7 — Education II \$8.95ppd.
Fun with Math Drill
BOGGLE - The Word Game
SCRAMBLE - Word Skills Exercise
STORY - Vocabulary Fun
Basic Reading Skills
Biorhythm Plotter
Shopping Spree
Magic Square Generator
WOMBATS - Story Teller with Math & Vocabulary

#SS8 — Strategy II \$8.95ppd.
Mastermind - Computerized Code Craker
STRIKE 9 Number Strategy
TRAP - Trap the Computers Number
Rule your KINGDOM to fortune or famine
Defuse the Hidden Bomb!
Try to avoid getting the last Match
FOOTBALL - The keyboard Quarterback
Number REVERSE
The old game of DOTS against the Computer
Number Square

#SS9 — Adventure \$8.95ppd.
CIA - Central Intelligence Agency Adventure
MANOR - The Stonevill Manor Adventure
The Intergalactic Trader
LOSTGOLD - Help the lost miner find the gold
SURVIVAL - Marooned on the moon -
Can You Survive?

#SS10 — Games II \$8.95ppd.
Hunt the Willy Wumpus
Concentration
Acey-Ducey Card Game
A Number Guessing Game
Play Checkers against the Computers
Biorhythm Chart for Printer
Birthday Statistics
Computer Spelling Bee
Escape from Mars Adventure
Banner Printer

must have already created a definition file to show the form in which you want the data arranged. This is the file which defines the result you want.

There are two option codes to choose from, 'N' or 'D.' Use option code 'N' if you only want to create an index file for an existing data file. Use option code 'D' if you only want to sort a data file without making an index file for it. If you do not use an option code, omit both the code and the slash (/) from the command line. *FormSort* will output both a data file and an index file if you do not impose a limit with an option code. When using an option code you are limited to only one input file.

INPUTDEF1 INPUTDEF2 — These represent the names of the input definition files. You can combine up to 24 data files into one output data file with *FormSort*. For every input data file, you must have on disk a definition file with the same name as the input data file.

In naming either output or input definition files, do not use the .DEF extension. If the output file has the same name as the input file (as in simple file maintenance) only type the filename once. If any of the files named are not on the logged drive, put the letter of the correct drive followed by a colon before the filename. *FormSort* sorts in ascending sequence only.

Here are a few examples of command lines:

A>FORMSORT JUNEORDR

This will perform file maintenance on JUNEORDR.DTA and output a newly sorted data file with a matching index file.

A>FORMSORT JUNESALE/D JUNEORDR

This will sort the data in JUNEORDR.DTA into a different order as defined by JUNESALE.DEF and output a data file only.

A>FORMSORT JUNESALE/N

This will create an index file to match JUNESALE.DTA without altering the data file.

A>FORMSORT SALES85 JANSALLES FEBSALES MARSALES APRSALES MAYSALES JUNSALES JULSALES AUGSALES SEPSALES OCTSALES NOVSALES DECSALES

This will combine monthly sales data files into one large data file for the year and output both a data file and an index file named SALES85.DTA and SALES85.NDX.

Redit will only perform calculations based on the contents of fields within the report. In order to accomplish this without the unwanted fields showing (in your case, First Name field and Last Name field), put the two fields that you do not want to show in your report on a separate line of the report with the "never print" symbol (.) in the print control column. You will then be able to use their contents in a calculated field later in the report.

Q. Is it true that WordStar cannot print eight lines per inch without setting up the printer outside of WordStar?

John Hornung
Republic, MO

A. You could use one of the user patch areas to toggle the Panasonic 1091 printer to eight lines per inch or use the COPY CON instructions that were published in the April '85 issue of *SOFT SECTOR*.

5

Frustrated with Inflexible Software?

BGW Systems, Inc. announces a significant breakthrough.

Software you can customize without programming experience.

Business tools that do what you want - quickly, easily, inexpensively.

ACCESS FIVE®

Take our mailing list manager, ACCESS FIVE.* It's a simple product that packs a lot of punch. In fact, it's like buying multiple programs in one. For example, from easy menu choices, you can customize it to manage mailing lists, product inquiries, order entry, short personnel records, and time tracking.

ACCESS ABILITY

With ACCESS FIVE, you can add, change, and delete, then select, sort, and print one or more records. Print a mailing label or an entire record. Put in your own special codes and action fields (to show what you sold to a customer on the last six calls, for example).

SPEEDY

ACCESS FIVE can locate a single name in a list of 10,000 in less than two seconds average time.

Concerned about future data compatibility? You should be. You'll never have to re-key these files again. ACCESS FIVE has a back-end formatter to generate Mailmerge (read by WordStar) or DIF format files (read by LOTUS 1-2-3 and dBase II).

ALL THIS, and it's easy to use and affordable. This is only the beginning. Soon, you can choose from other flexible software products. At BGW Systems, Inc., we're building tools to help you run your business. After all, isn't that what it's all about?

\$69⁹⁵

BGW Systems, Inc. has additional business software available:

■ **General Ledger (GL) \$79.95**

A perfect package for the non-accountant or small business owner. Perform monthly and annual financial functions using your InfoStar package.

■ **General Graphics Utility (GGU) \$39.95**

Display and print line, bar, and pie graphs with up to six sets of variables. Color monitor can display six colors.

■ **Additional programs** available for home use.

*ACCESS FIVE runs on the Sanyo, IBM PC and compatibles. To order any of these programs, send check or money order to: BGW Systems, Inc., 16714 S. Meridian, Suite 200, Puyallup, WA 98373. (206) 845-7845. Please specify hardware system when you order. Include \$3.00 shipping charge.

BGW SYSTEMS, INC.

Trademarks: MailMerge, Micropro International, LOTUS 1-2-3, Lotus Development Corporation, dBase II, Ashton-Tate, Inc.

**16714 S. Meridian, Suite 200
Puyallup, WA 98373
(206) 845-7845**

MASTERING MS-DOS

Soft Sector's mild-mannered technical editor continues his column this month in the guise of his alter ego and favorite computer superhero.

BATch Man Takes on FORmidable Enemies

By Danny Humphress
Soft Sector Technical Editor

In our last episode, we left BATch Man preparing to do battle with his arch enemies in the MS-DOS arena. As we join BATch Man, he is speeding through the dark reaches of the Gotham computer display in the BATchmobile. At his destination, he'll have to call upon his newest weapon, the FOR ray gun, to help him triumph over iniquity, allowing him to take command of MS-DOS and free the citizens of Gotham City.

Sometimes you'll want to have the computer repeat the same command with different parameters. You could, of course, just list a separate command in a batch file for each time you want to execute the command. A special MS-DOS command called FOR, however, allows you to do this with just a single command line. For instance, suppose you wanted a directory for the disk in drive A: and in drive B:. Enter this command (substitute the appropriate drive letter for B: if you have a hard disk). There is no need to enter it into a batch file at this time. Make sure to use a lowercase 'f.'

```
FOR %f IN (A: B:) DO DIR %f
```

This command tells the computer to do a DIR command for each of the drives listed within the parentheses. The general syntax for the FOR command is:

```
FOR %f IN (set) DO command %f
```

The "set" can consist of any list of parameters for the command. The "command" can be any valid MS-DOS command or executable program that accepts parameters.

In addition to listing a set of different parameters, it is also possible to make use of MS-DOS's wildcard framework for specifying files. In other words, you can perform a command on all files that match your wildcard. As an example, we'll use FOR to TYPE the contents of all the batch file (those that end with .BAT). Enter this command:

```
FOR %f IN (*.BAT) DO TYPE %f
```

Just as with the other form of the FOR command, you can list multiple parameters within the parentheses regardless of whether you use wildcards.

Batch files have been the topic of our discussion for the past few months. It is no coincidence, therefore, that we're working with the FOR command today since it is an integral part of the batch file command set. When using FOR within a batch file, it is possible to

replace the parameter set with the variable replaceable parameters (%0 to %9). In this way, you can specify the parameters for the FOR command when you run the batch file. To demonstrate this, create this batch file and call it DIR2.BAT:

```
FOR %%f IN (%1) DO DIR %%f
```

Notice that the 'f' is preceeded by two percent signs instead of the usual one. This is necessary when we use replaceable parameters within the command line.

This batch file can now be used to do a directory listing. We'll use it to list the .COM files on the disk with the following command:

```
DIR2 *.BAT
```

The wildcard specification, *.COM is substituted for the %1 in the command line, giving us the directory listing. Of course, this could have been accomplished with a single DIR command, but this is just an example.

Next Month . . .

BATch Man ingeniously uses the IF weapon on his most clever foes as he faces his greatest challenge — to take complete control of MS-DOS and liberate the users from their keyboards. Will he survive? Will he succeed? We'll know next month.

(Danny Humphress, SOFT SECTOR's Technical Editor, is the owner of a computer software and consulting firm in Louisville, Ky. Danny brings to SOFTSECTOR his extensive experience with small business computers and applications software.)

SANYO DEALERS —

TO HELP IMPROVE YOUR COMPETITIVE EDGE — THESE FOUR BIG I's

IMPROVED DEALER PRICING/MARGINS — **I**MMEDIATE SHIPMENT
IMPROVED DEALER SUPPORT/CUSTOMER SERVICE — **I**MPROVED PROFITS

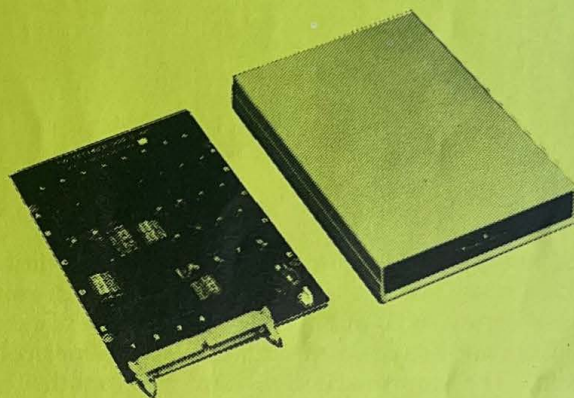


DATAFILE™ SERIES HARD DISK

Complete 10, 20, Or 40 MB Formatted Systems
External For All SANYOS From MBC-1000 To
MBC-550/555 Series
Internal For New, Exciting MBC-775 And
MBC-880 Series
New, IMPROVED Dealer Pricing/Margins

MEMORY EXPANSION BOARD

Provides Up To 720K Usable RAM
Self-Contained For Quick/Easy Customer
Installation
Complete With Power Supply and RAM Disk
Software
New, IMPROVED Dealer Pricing/Margins



HT TAPE HARD DISK TAPE BACKUP

10 MB Capacity Streaming Or File-By-File
No Additional Controller Required
12 Times Faster Than 30+ Floppies
New, IMPROVED Dealer Pricing/Margins

Dealer Support And Customer Service Direct From TW Technologies

Dealer Inventory And Associated Costs Reduced

Dealer Service Costs And Service Problems Reduced

Also Available At **VERY** Competitive Prices: HARD DISKS And
TAPE BACKUP For IBM And Most Other PC/AT Compatibles

LEARN MORE!!!!

FOR PRICES/TERMS CONTACT

The SANYO Specialists

TW TECHNOLOGIES, INC.

21636 North 14th Avenue, Suite A2
Phoenix, AZ 85027, (602) 581-0669

SANYO is a trademark of Sanyo Corporation. DATAFILE is a trademark of TW Technologies, Incorporated.



Here are some timely graphics techniques to augment this year's flag waving festivities.

Creating The Perfect Star Spangled Banner

By Thom Harris, Ph.D.

The five-pointed star, considered to be an ancient symbol for sovereignty, is found on flags of many nations and provinces throughout the world. The appreciation of this elegant symbol may be as proportional to one's efforts to sketch it correctly as it is to one's love of country. Anyone who has cut out a paper star to be placed atop a Christmas tree probably found it challenging to get all five points to look alike. Certainly, your respect for five-pointed stars must linger from your third or fourth grade art class, when you had to sketch the United States flag spangled with 50 stars. Or was it 49 or fewer stars during your grade school era?

Later in life, you learned that your earlier struggles could have been great opportunities to really show your wits. If only you had known then that simple

drafting instruments really make the task of drawing good five-pointed stars a piece of cake. Well, your Sanyo MBC-550 series computer provides you with yet another opportunity to show your wits. If you are somewhat familiar with Sanyo BASIC's graphics functions, the illustrations in this article can be used in your programs to really show how stars are supposed to be drawn.

The Perfect Star

A perfect five-pointed star is defined in this article as one which can be circumscribed by a circle such that the vertices of all the star's points lie on the circle at equal intervals. In other words, a star of this type may be drawn by first locating five equally spaced points on a circle. Straight lines can then be drawn to connect each alternate point to form the star (Figure 1). Such an exercise reveals the star as an equal sided pentagon with the sides extended to form the five points.

A second circle, concentric to and smaller than the first circle, can be drawn to


circumscribe the pentagonal body of the star. The pentagon's corners will contact the small circle at equal intervals, just as the star's points do on the larger circle. However, the corners contact the small circle on radials which bisect the arcs between where the points contact the large circle. The radius of the smaller circle is approximately three-eighths the length of the radius of the larger circle.

First You Need A Perfect Circle

The procedures used in this article for drawing uniform stars use circular relationships of the Sanyo's display system. Before you can get your computer to display perfect stars, you must first get it to display perfectly round circles, not the elliptical figures which so often mar many otherwise fine computer programs.

One way you can round those ellipses into good circles is to replace the value for ratio in the CIRCLE instruction with an appropriate value. The ratio is the fractional number which follows the fourth

(Thom Harris has been involved in university teaching, research and public service for over seven years. He has extensive experience with statistical analysis programs and has written programs in BASIC for various applications. He may be contacted at 24018 Palo Duro Dr., Hockley, TX 77447; 713-373-1659.)



comma after the parenthesis in the CIRCLE instruction. A value of approximately 0.463 works fine for most monitors, but you can calculate your own as follows:

1) Load the BASIC.EXE program.

2) Type COLOR 0,2 and hit RETURN. Next type CLS and hit RETURN. This should outline the actual display area of the screen (640 dots by 200 lines) in green.

3) Use a pair of dividers or a tape measure to take the distances from top to bottom (height) and from side to side (width) of the green screen area. Change your screen back to normal by typing COLOR 2,0, hitting RETURN, typing CLS and hitting RETURN

4) In case you used dividers, transfer the measurements to a ruler, preferably one which is graduated in centimeters and millimeters, and record both values to the nearest millimeter.

5) Divide the 200 graphics lines which make up the height of the display area by the height measured above to get the number of lines per centimeter. For example, 200 lines per 11.4 centimeters equals 17.5439 lines per centimeter.

6) Likewise, divide the 640 graphics

dots involved by the width measured above to get the number of dots per centimeter. For example, 640 dots per 16.9 centimeters equals 37.8698 dots per centimeter.

7) Now, to get the ratio, divide the result in step five by the result in step six. The above example gives 17.5439 lines per centimeter divided by 37.8698 dots per centimeter equals 0.4632 lines per dot. Your result should be a similar value.

It may be worthwhile to mention that your monitor and computer are in perfect order even though the above adjustment is necessary for drawing round circles. Remember, your Sanyo is a business computer. The display system is designed primarily to display 25 lines of 80-column text. Since each character is made up of 64 graphics dots (eight dots by eight lines), 200 graphics lines vertically on the screen, each made up of 640 horizontal dots across the screen, are required to display a full screen of alphanumeric symbols. Due to the shape of your video screen (width greater than height) and the number of dots and lines assigned to fill it, each graphics dot spans over two times the

distance on your display in the vertical direction than the distance it spans in the horizontal direction. This is evident in the above calculations.

Drawing The Perfect Star

The short listing STAR.BAS illustrates one way to draw perfect five-pointed stars. Stars are drawn by a series of lines which connect points on two virtual circles. The large circle has a radius of 210 dots as shown in lines 50 and 60. The smaller circle has a radius of about three-eighths of the larger circle (0.38 by 210). Each circle has the coordinates (319,99) as its center, which serves as a reference for locating all lines to be drawn. The horizontal coordinates of the end points of each line are located by the COS(x) function. Likewise, each vertical coordinate is located by the SIN(x) function.

Line 30 effectively divides a unit circle into five equal sectors and provides one sector at a time for drawing the star's points. The location of each sector from which the circle begins is given by the variable, I. The I-value is first adjusted then used to calculate three angles, A, B and C in Line 40. The adjustment 0.05 sets each angle such that one of the star's

points is pointed directly upwards on the screen. I-values for angles B and C are further adjusted such that the three angles are one-tenth of the circle apart. Each adjusted value is converted to angles in radians by the factor 6.283 (two by pi where pi equals 3.1415). Remember, 6.283 radians (the length of the radius) equal the length of the circumference of a circle. The SIN(x) and COS(x) functions must have arguments in radians rather than in degrees. The value 0.463, as calculated earlier to make circles round, adjusts the number of graphics lines in the vertical direction to cover the same distance on the screen as the number of horizontal dots which define the length of the radius.

The first part of each 'V' which makes up one of the star's points is formed by the LINE instruction in program Line 50. This instruction draws a line from a point associated with Angle A on the smaller circle to a point associated with Angle B on the larger circle. The 'V' is completed by Line 60, which draws a line from the termination of the first line back to the small circle at a location determined by Angle C. This routine is repeated for all five points, the location of all lines being determined by the next I-value.

After all five points of the star are complete, the star is painted white by the first statement in Line 80. The second statement draws a circle around the star which has a radius of 214 (two dots more than the radius of the star). Note that the ratio value, 0.463, is used

to make the circle round. Also note that stars and circles are constructed clockwise on the screen because relative screen coordinates are positive downward and to the right.

Ol' Glory

The program OL-GLORY.BAS uses the procedures discussed above to draw the United States flag. It is drawn in the earlier 13-star version, then changed to the current 50-star version. Before the flag is drawn, a portion of the screen is beautifully filled with 15 stars drawn with randomly selected parameters. Then, red- and white-filled boxes are drawn to form stripes for the flag (lines 80 through 100). The blue canton is drawn by the LINE instruction in subroutine 300 before the 13 stars are drawn in a circular arrangement of the original U.S. flag. This is accomplished by lines 140 through 160, which select 13 sets of coordinates for the circular arrangement of stars, and a call to lines 420 through 470 which actually take these coordinates as a basis to locate lines which form the stars.

The entire canton is saved in Array B% by the GET statement in Line 160. During each succeeding run, the 13-star canton is placed on the flag instantly by the PUT instruction in Line 170. A new canton is then drawn and filled with the present arrangement of 50 stars by lines 200 through 230. Here, the PUT statement is executed 50 times to properly spangle the flag with the white star stored in Array A%. Then this sequence starts over and runs a total

of 10 times as set by CY in Line 260.

All stars drawn by this program are drawn by lines 420 through 460. Here variables are used for seven different characteristics of each star. These are selected randomly for placing stars on the screen during the first part of the program (lines 340 through 380). Otherwise, the list of variables is set prior to execution of the star drawing routine.

The number of points which a given star will have is set between three and eight by NP. The size of each star is selected by the radius R. The length of the star's points is adjusted by RR, which is the radii ratio of the small and large circles. XC and YC determine coordinates where the center of the star will be located. CL selects the color, and OT the orientation of a point with respect to the screen.

The orientation of each star in the 13 star arrangement of the flag is set by the variable I, where OT is set to 0.05 in the argument list in Line 130. The variable CF in lines 440 through 450 is assigned the value of the correction factor (ratio) for rounding circles in Line 20. Please change this value to that which you calculated earlier so that your screen will be properly spangled with perfect stars.

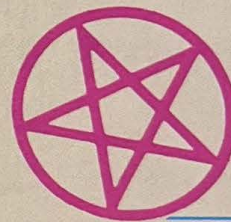
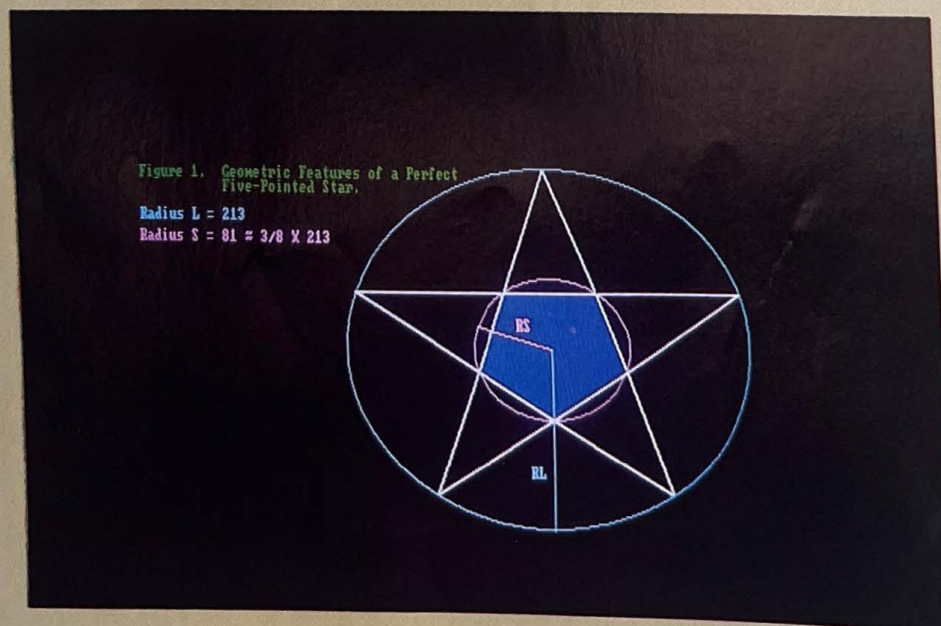


Figure 1:

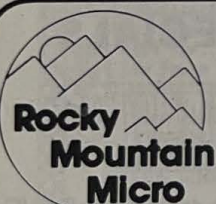


Listing 1: OL-GLORY.BAS

```

10 'OL-GLORY.BAS By T.S. Harris 3/28/85
20 CLEAR,624 :DIM A%(100),B%(4882) :LOCATE 1,1,0 :CF=.463
30 CLS :LINE(0,0)-(639,40),1,BF
40 LINE(639,41)-(639,199),1 :LINE -(0,199),1 :LINE -(0,41),1
50 SW=0 :NP=5 :CL=7 :R=8 :RR=.39 :OT=.05 :XC=15 :YC=6 :I=0
60 GOSUB 420 :GET(3,0)-(27,11),A% :SW=1 :GOSUB 340
70 SYMBOL(240,7),"STARS",4,4,7 :GOSUB 280 :CLS
80 FOR STRIPE=0 TO 12 STEP 2
90 LINE(0,STRIPE*13)-(639,STRIPE*13+12),4,BF :IF STRIPE>11 THEN 110
100 LINE(0,STRIPE*13+13)-(639,STRIPE*13+25),7,BF :NEXT STRIPE
110 SYMBOL(48,4),"AND",2,2,1 :SYMBOL(48,20),"STRIPES",4,4,1
120 GOSUB 280 :IF CY>0 THEN 170 :ELSE GOSUB 300
130 NP=5 :CL=7 :R=10 :RR=.39 :OT=.05 :SW=0
140 FOR I=0 TO 1 STEP 1/13
150 XC=140+75*COS((I-.25)*6.283) :YC=44+CF*75*SIN((I-.25)*6.283)
160 GOSUB 420 :NEXT I :GET(0,0)-(278,90),B% :GOTO 180
170 PUT(0,0),B%
180 SYMBOL(185,175),"FOREVER",3,3,4 :SYMBOL(400,180),"AND...",2,2,7
190 GOSUB 280 :GOSUB 300
200 VERT=3 :FOR ROW=1 TO 9
210 IF ROW MOD 2=0 THEN HORT=30:NUMSTAR=5 : ELSE HORT=8:NUMSTAR=6
220 FOR STAR=1 TO NUMSTAR :PUT(HORT,VERT),A% :HORT=HORT+48 :NEXT STAR
230 VERT=VERT+9:NEXT ROW
240 LINE(185,175)-(496,199),0,BF
250 SYMBOL(247,175),"EVER!!",3,3,1 :GOSUB 280
260 CY=CY+1 :IF CY<10 THEN 30 :ELSE CLS :END

```



SANYO



P.O. Box 1693, Sandy, Utah 84091 (801) 572-6272

Memory Expansion for your Sanyo MBC 550 or 555

- 960K Memory card with Real Time Clock
- 640K Memory Card with Real Time Clock for use with the Video Ram Board
- All memory products come with Ram Disk and Print Spooler by Tim Purves and Level IV Products
- RS232 Boards
- Clock Calender Card (Correct time and date even after boot up).
- AB Switches

CHECK OUR COMPETITIVE PRICES

Dealer Inquires Welcome
Six month warranty on Rocky Mountain Products

We take the BYTE out of high prices!

Accessories

PANASONIC CT 1300D	
COLOR MONITOR	279.00
RS-232C PORT	49.00
ANCHOR MARK XII	259.00
ANCHOR MARK X	129.00
6' KEYBOARD	
EXTENDER	9.95
10 DS/DD	
DISKETTES	21.95
SANYO MBC	
USER HANDBOOK	15.95
BASIC REFERENCE	
MANUAL	35.00
DATASAR	
REFERENCE	30.00
REPORTSTAR REF.	
MANUAL	45.00
MS-DOS REFERENCE	
MANUAL	49.00
128K RAM	
EXPANSION	49.00
COMPUSERVE KIT	31.95

SPECIALS

VIDEO RAM BOARD	Best Price
FLIGHT SIMULATOR WITH	
PATCH DISK	39.00
TEAC 360K DISK	
DRIVE	119.00
DUST COVER SET	
WITH 2 YEAR	
GUARANTEE	29.95
TILT AND SWIVEL STAND	
FOR MONITOR	19.95

Software

PAYROLL OR	
INVENTORY	69.95
ACCOUNTS PAYABLE OR	
RECEIVABLE	69.95
GENERAL LEDGER	69.95
THUNDER CHIEF	29.95
SOFT SPOOL	29.95
SOLITAIRE	34.95
MI-TERM MODEM	
SOFTWARE	59.00
DS-DOS	49.95
MAJOR MOTION	24.95
TIME BANDIT	34.95

Visa, MC add 3%. Personal checks allow 10-15 days to clear.
No CODs. In MD add 5% tax. Add 3% for shipping, \$3.00 minimum. Send for free Sanyo catalog.

Comp-U-Type

P.O. Box 777, Millersville, MD 21108

(301) 987-1550




```

270 ***
280 FOR DELAY=1 TO 4000 :NEXT :RETURN :*** Delay Display **
290 ***
300 LINE(0,0)-(278,90),1,BF :RETURN :*** Draw Blue Canton **
310 ***
320 *** Randomly Select Parameters To Draw Stars **
330 ***
340 FOR STAR=1 TO 15
350 NP=INT(6*RND)+3 :R=90*RND+10
360 RR=.2*RND+.3 :IF NP<5 THEN RR=.2
370 XC=INT((639-2*R)*RND)+R :YC=INT((157-2*CF*R)*RND)+42+CF*R
380 CL=INT(7*RND)+1 :OT=.2*RND+.05
390 ***
400 *** Begin Star Drawing Routine With Given And Random Parameters **
410 ***
420 FOR POINTS=0 TO 1 STEP 1/NP
430 A=(POINTS+I+OT)*6.283 :B=(POINTS+I+.1+OT)*6.283 :C=(POINTS+I+.2+OT)*6.283
440 LINE(XC+RR*R*COS(A),YC+RR*CF*R*SIN(A))-(XC+R*COS(B),YC+CF*R*SIN(B)),CL
450 LINE -(XC+RR*R*COS(C),YC+RR*CF*R*SIN(C)),CL
460 NEXT POINTS :IF NP<5 THEN CIRCLE(XC,YC),R,,,CF,CL :GOTO 480
470 PAINT(XC,YC),CL,CL :IF SW=0 THEN RETURN :*** End Routine If Not Random **
480 NEXT STAR :RETURN
490 *** End of Listing **

```

Listing 2: STAR.BAS

```

10 'STAR.BAS by T.S. Harris 3/37/85
20 CLS :LOCATE 1,1
30 FOR I=0 TO 1 STEP 1/5

```

It's Here! PC LOGO™

PC Logo for the Sanyo MBC 550/555 Series is now available. PC Logo features include:

- full color turtle graphics with Sanyo Video Board
- word and list capability
- comprehensive tutorial and reference manual
- utility disk with over 30 sample programs
- only \$149.95

To order PC Logo see your local software dealer or contact:

Harvard Associates, Inc.
260 Beacon Street
Somerville, MA 02143
Tel.: 617/492-0660

Orders only: 800/622-4070
800/942-7317 (IL only)

4TH of JULY SPECIALS

PANASONIC CT-1300D RGB Monitor
PLUS the QUIK SWITCH III, video switch
box with sync inversion. Only...\$299.95



SANYO Video Board PLUS your choice of MSDOS PUBLIC
DOMAIN Volumes 1, 2, 3, or 4. \$250 value \$199.00

C~TEK
Systems

132 N. Washington Street
Falls Church, Va. 22046
[703] 241-4952

Send for hardware /software catalog.

EXTENDED CONCURRENT FORTH-83 FOR THE SANYO 550 SERIES
Disk, manual and shipping.....\$40.00
(Minnesota residents, add 6% sales tax)

COFORTH

FORTH programming language is interactive, structured, up to 30 times faster than BASIC, yet affords direct access to hardware. Ideal for graphics, games, robotics. Easily extendable, serves as a tool for constructing other languages. Built-in extensions to support SANYO's unique features:

- | | |
|---------------------------------|---|
| * Hi-res graphics | * Full featured editor |
| * Screen print | (automatically invoked on compile errors) |
| * MS-DOS file support | * Save compiled applications to COM files |
| * FORTH loading from text files | * Concurrency and scheduling |
| * INCLUDES sample GAME programs | * AND A WHOLE LOT MORE |

ALSO UNDER DEVELOPMENT: SANYO MIDI BOARD with MIDI software (for music synthesizer control) **WRITE FOR DETAILS.**

SEND CHECK, MONEY ORDER OR INQUIRIES TO:

BLUEWATER

2537 Colfax Avenue South
Minneapolis, Minnesota 55405
(612) 377-7369


```

40 A=(I+0+.05)*6.283 :B=(I+.1+.05)*6.283 :C=(I+.2+.05)*6.283
50 LINE(319+.38*210*COS(A),99+.463*.38*210*SIN(A))-(319+210*COS(B),99+.463*210*S
IN(B)),7
60 LINE -(319+.38*210*COS(C),99+.463*.38*210*SIN(C)),7
70 NEXT I
80 PAINT(319,99),7,7 :CIRCLE(319,100),214,,,.463,7
90 PAINT(319,196),1,7 :IS=INPUT$(1) :CLS

```

Listing 3: FIGURE-1.BAS

```

10 'FIGURE-1.BAS for PerfectStar by T.S. Harris 3/25/85
20 CLS :LOCATE 1,1,0
30 PRINT "Figure 1. Geometric Features of a Perfect"
40 LOCATE 2,12 :PRINT "Five-Pointed Star."
50 FOR I=0 TO 1 STEP 1/5
60 A=(I+0-.05)*6.283 :B=(I+.4-.05)*6.283 :C=(I+.2+.05)*6.283
70 LINE(639-213-213*COS(A),99+.463*213*SIN(A))-(639-213-213*COS(B),99+.463*213*S
IN(B)),7
80 NEXT I
90 PAINT(639-213,99),1,7 :CIRCLE(639-213,99),213,,,.463,3
100 CIRCLE(639-213,99),213*.38,,,.463,5
110 LINE(639-213,99)-(639-213-213*.38*COS(A),99+.38*.463*213*SIN(A)),5
120 LINE(639-213,99)-(639-213,.38*463*99),3
130 SYMBOL(639-213-36,99-16),"RS",1,1,5
140 SYMBOL(639-213-24,99+64),"RL",1,1,3
150 SYMBOL(0,24),"Radius L = 213",1,1,3
160 SYMBOL(0,36),"Radius S = 81 w 3/8 X 213",1,1,5
170 IS=INPUT$(1) :CLS

```

S

Public Domain Software for YOUR Sanyo	
10 Volumes....\$5/volume	Send \$5 for Directory Disk!
1 Meg. Memory Upgrade Plans [Soldering Required!]	
Uses 4164 Rams. Expandable to 960K.....	\$15.00
4164 Low Power 150nS RAMS.....	\$ 2.50
"The MISSING LINK" -- Memory Expansion Card for Sanyo	
Add either 256K or 512K RAM - Plugs in - No soldering	
Built in Real Time Clock - Soft Video Feature	
Complete with installation software and instructions	
MISSING LINK with 256K RAM.....	\$299
with 512K RAM.....	\$349
DSDD Nashua Diskettes [bulk packed] each only...\$1.79	
Please add \$3 shipping and handling per order!	
Call our 24 Modem Line the 'Bit Bucket' (316)343-8028	
Datalog	(voice) (316)342-6782
Box 1401, Emporia, KS 66801-1401	



The Handicapper

Use your Sanyo to improve your performance at the track! These fine programs for **Thoroughbreds**, **Harness Horses** and **Greyhounds** combine the power of your Sanyo 550 series computer with the savvy of a veteran handicapper. Spend a few minutes entering data, and The Handicapper will rank the horses or dogs in each race. All the information is readily available from the Thoroughbred Racing Form, harness or greyhound track program. We even provide a diagram showing you where to get the data you need!

Horse racing factors include speed, class, past performance, post position, stretch gain, beaten favorite, jockey or driver's record, weight (for thoroughbreds) and parked-out signs (for trotters). Greyhound factors include speed, past performance, class, favorite box, kennel record, breaking tendencies, beaten favorite.

Complete instructions and wagering guide included. Thoroughbred, Harness or Greyhound Handicapper, only \$49.95 each. Any two, just \$74.95. All three only \$99.95. Checks, Money Orders or VISA/MC welcomed.



Federal Hill Software
825 William Street
Baltimore, Md. 21230



Toll Free (Orders Only) 800-245-6228
For Information Call 301-547-1447

RENT THE PUBLIC DOMAIN!

Public Domain Software isn't copyrighted! Business-Educational-Games-Graphics-Finance Utilities, and more... Hundreds of useful programs you can rent and copy yourself.

57 VOLUME LIBRARY FOR THE SANYO 550/555

VOL. 1-57 (57 Disk sides) \$ 60.00
SAMPLE DISK (15 programs) \$ 5.00
550/555-VIDEO BOARD, 775 or IBM OWNERS
200 VOLUME IBM PC/MS-DOS \$200.00
VOL. 1-50 (50 Disk sides) \$ 50.00

Rental is for 7 days, add \$7.50 for shipping plus
Refundable Security Deposit of \$2.00 per volume.

Send \$5 for sample disk or S.A.S.E. for more information

FUTURESYSTEMS, Box 3040, Vista, CA 92083

The First Great soft sector One-Liner Contest

Here we are again with more winners of The First Great SOFT SECTOR One-Liner Contest. The authors of these winning entries will receive a copy of the July edition of SOFT SECTOR ON DISK.

To briefly restate the rules of the contest, begin the program with the number one and end it in a single line. Anything else goes. Entries will be accepted in either Sanyo BASIC or GW-BASIC. Include a printed listing, a title for the program, and a short explanation of what it does, and send it to The First Great SOFT SECTOR One-Liner Contest, P.O. Box 385, Prospect, KY 40059.

LINE DESIGN

After you type in *Line Design* and run it, you will see an interesting pattern on your screen. This pattern, which appears several times with a new size, is made by using only one of the fine graphics commands in Sanyo BASIC — the LINE command. If you have a color monitor, the random color adds a nice effect. But, if you have a monochrome monitor, you might want to leave out the RND statement and replace it with C=5 or whichever "color" you wish.

```
1 COLOR 7,0:CLS:C=INT(RND*7)+1:FOR X=2 TO 5:FOR Y=0 TO 640 STEP X:LINE(300,100)-(Y,0),C:LINE(300,100)-(Y,199),C:NEXT:FOR Y=0 TO 200 STEP X:LINE(300,100)-(0,Y),C:LINE(300,100)-(639,Y),C:NEXT:FOR T=1 TO 500:NEXT:CLS:NEXT X:FOR T=1 TO 750:NEXT:GOTO 1
```

Kevin Pike
Storrs, CT

BALL BOUNCE

I call my submission *Ball Bounce*, and it does exactly what the title says.

```
1 CLS:LOCATE 1,1,0:LINE(0,11)-(35,180),,B:DIM B(99):Q=34:CIRCLE(10,5),10:GET(0,0)-(20,10),B:FOR R=0 TO 33:PUT(R,0),B,XOR:PUT(R+1,0),B:NEXT:B=175:FOR A=1.57 TO 2.536 STEP .075:B=B-.5575:X=-ABS(SIN(A))*B+175:Y=A*23:PUT(Q,Z),B,XOR:PUT(Y,X),B:Q=Y:Z=X:NEXT
```

Thom Herold
Columbus, OH

Editor's Note: You don't get any extra prize, Thom, but you have our special congratulations for this awe-inspiring little entry.

TARGET

Written in GW-BASIC for the 550/555 with the Video RAM Board, this little one-line game can be addictive. On the screen, the top two numbers indicate the time and number of hits. The target is the little "airplane" in the middle moving to the right. The "cannon" is controlled by the 'F' and 'J' keys, the ones with the indentations in them, and is fired with the spacebar.

Where are the IF/THEN/ELSE statements? I did use conditionals, but notice they are inside equations. How does this work? Take the example $X=Y$ and put it in an equation saying $SCORE=SCORE-(X=Y)$. $X=Y$ returns two values: a -1 if $X=Y$ is true and a zero if $X=Y$ is false. Those are my conditionals; there isn't any room for IF/THEN/ELSE. The cannon not only moves with this method, it is not allowed to go outside its bounds.


```
1 KEY OFF:SCREEN 1:WHILE M<256:M=M+1:R$=INKEY$:D=D-(D>1)*(R$="F")+(D<37)*(R$="J"):T=R$=" ":H=H+T*(X\8=D):LOCATE 25,D+1,:PRINT " A ":X=-(X+6)*(X<300):FOR S=-1 TO 0:PSET(D*8+12,8),T*S:DRAW"D184":PSET(X,99),-S:DRAW"U3R1D4R8D3L9U4":NEXT:LOCATE 1:PRINT M,H:WEND
```

Clayborne D. Taylor, Jr.
Starkville, MS



(512)
657-2012

Hammer Bros.



Software

- Autotype — unique software turns Sanyo Computer into electronic memory typewriter. **\$59⁹⁵**
- Spelling Quiz — a self-teaching educational program for grades 1-8. **\$19⁹⁵**
- Infocom —
 - Zork I, II, III. **\$33⁹⁵** each
 - Deadline. **\$38⁹⁵**
 - Cutthroat. **\$37⁹⁵**
 - and others. **\$33⁹⁵** from

Add \$5.00 for COD
Add 3% Visa or Mastercharge
Dealer Inquiries welcome
Shipping and Handling 3%—\$3.00 Minimum




**14008 Nacogdoches
San Antonio, Texas 78247**

DS-DOS PLUS 2.11 by Tim Purves

80 track drives, 10 sector formats, 512K memory, and IBM graphics are only a few of the exciting features exclusively in DS-DOS PLUS 2.11. This MS-DOS upgrade is specifically designed to support 80 track drives on your Sanyo. In addition, it allows for 10 sector formats on both 40 and 80 track drives (single or double sided). And that's not all; not only does DS-DOS support the new SANYO VIDEO RAM BOARD, but makes switching between normal graphics mode and IBM graphics a breeze. A single DOS command toggles between the two modes instantly. And for versatility, DS-DOS is unsurpassed; it can control any combination of 40 and 80 track drives, read or write 8, 9, and 10 sector formats on 40 track drives, handle up to 512K memory, and even remember the date on reset. An extra 11 utilities help you use your system better, and include new DISKCOPY and FORMAT routines, rewritten to be super-fast and super-friendly through menu-driven operation. Don't settle for a DOS that's just "OK." Take a closer look at DS-DOS 2.11: the one that set the standard time and time again.

Requires MS-DOS 2.11

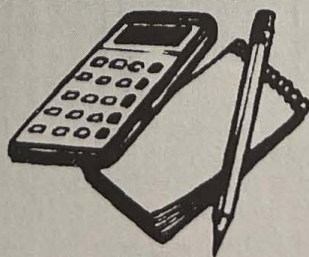
\$49.95

PICASSO by Bill Dunlevy

With PICASSO, the only 100% MACHINE LANGUAGE graphics program, power and simplicity is at your command. Pictures created with PICASSO appear in Time Bandit, the ultimate visual feast, and have been on the cover of Soft Sector — Twice! Whether for marketing, design, or simple creative pleasure, PICASSO is guaranteed to knock your smocks off!

- 100% Machine language!
- Rubber Band Graphics
- Two FULL-SIZED screens to draw on.
- EASY; no control keys to memorize!
- Pick from 64 colors, or mix your own.
- Use brushes and densities for special effects—even air-brushing!
- SMART Fill uses multi-color patterns and any combination of stop colors.
- Draw ANY polygon; from triangles and hexagons, to ovals or perfect circles!
- Stamp system lets you copy, move, save, and flip parts of your pictures.
- Use Stamps in your own BASIC or machine language programs!
- Use stamps in C & Pascal with Graphpac

**256K SANYO MBC-550/555
(Joystick recommended) \$99.95**



MichTron

**576 S. Telegraph
PONTIAC MI. 48053**

**ORDERS AND INFORMATION
(313) 334-5700**

MI-TERM by J. Weaver Jr.

**NO other communications program for the
MBC-550/555 can make THESE statements:**

SIMPLE TO USE NOTHING to memorize. Every command is accessed with function keys, and is on-screen in plain English AT ALL TIMES

NO LONG WAITS NO overlay loading - the entire program is only 13K long! Menus are concisely written on a single line

9 TRANSFER MODES transfer files direct from disk with ANY remote system. Supports XMODEM and DFT (SDT) protocols for error-free communication. Also includes the new SXX format - send binary files as electronic mail messages, with 2 levels of checksums, extraneous character trapping, even embedded comments!

SIMPLE AUTOLOGONS typing "MITERM" from DOS can automatically load your presets, open a disk buffer, and autolog onto your favorite system, with NO ADDITIONAL KEYSTROKES!

DIRECT SUPPORT call the author directly with your questions!

Of course, MI-TERM is written entirely in super-fast 8088 machine language exclusively for the Sanyo 550/555, and has one-key printer, echo, linefeed and buffer toggles, 15 definable preset keys, automatic buffer save to disk, on-line parameter changes, 9600 baud support, screen color options, directories, file deletion, XON/XOFF support, and much more.

SET YOUR COMPUTER FREE FOR ONLY

128K DISK (RS-232 Modem/Port required)

\$79.95



CORNERMAN by J. Weaver Jr.

Tired of wrestling with a sloppy desk littered with notepad, calendar, address book, calculator, et cetera...? Presenting CORNERMAN, the perfect ringside manager. CORNERMAN waits in memory while you use other programs, such as word processors, utilities, and even games! Then when you need to make a calculation or leave a note, CORNERMAN is instantly at your side. With a single keystroke the program appears! CORNERMAN will leave notes for you, do mathematical problems (including conversions between decimal, HEX, and binary!), instantly recall names and phone numbers (even dial for you!), and much more. Once you've finished with CORNERMAN, He quickly departs, putting you back into your program without disturbing a single item. While Sidekick (tm) works fine on the PC's, it doesn't help your Sanyo at all. Hire the perfect ringside manager; put CORNERMAN on your side today!

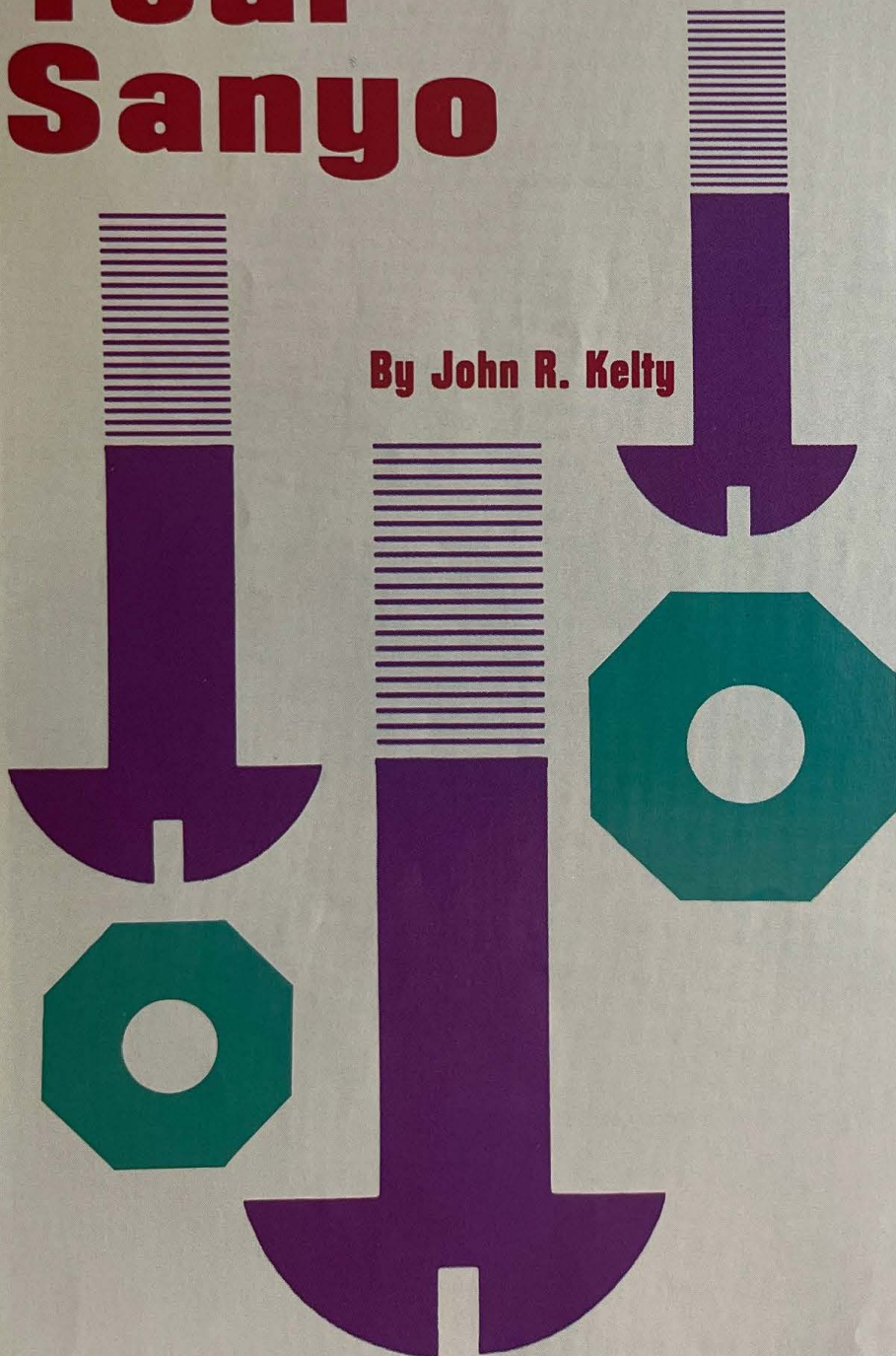
128K Sanyo 550/555 required

\$39.95

If you would like to have more space on your computer desk, here's a simple procedure for getting your 550/555 out of the way.

Vertically Mounting Your Sanyo

By John R. Kelty



There are a number of inexpensive and attractive computer tables for sale at various computer stores and even department stores. Unless you find a wide or deep one for the Sanyo, however, you might not be satisfied with the amount of work space you have left on your new computer desk. I like to have a calculator nearby (even with the computer!), the phone and my Smartmodem, a pencil holder, and a holder for reference cards, disk labels, write protect tabs, etc., not to mention a place for writing on a small pad. I just cannot do serious computing unless I am able to make some notes comfortably.

The "footprint" of our wonderful machine is not quite as bad as some of its cousin compatibles: about 14½ by 15½ inches on the table. In many cases, users place their monitors on top of the machine. It is a light, compact and attractive desk-top computer. But when you place the keyboard in front of the Sanyo, you get a total depth of about 21½ inches. Of two computer tables that I own, one is 19½ inches deep and the other is 21 inches deep — just not as nice as when I first set it on the kitchen table!

I have seen a number of advertisements for mounting the IBM PC on its side. The strapping devices look very nice but are expensive. I decided to mount my Sanyo in a somewhat permanent side position and give my table and work space the freedom it needed for creative computing.

(John Kelty holds a master's degree in electrical engineering and is currently the electronics supervisor for the University of Nebraska Department of Physics. His hobbies include computer speech synthesis. He may be contacted at 1440 N. 61st, Lincoln, NE 68505.)

Mounting the Sanyo on its side is a relatively simple task. If you had put together your own computer table from the box at the store, you can most likely add a couple more screws to hold your computer to the side. I do not see how this could void any warranty, since there is no modification to the computer itself and the computer can be put back into the exact condition it was in before the mounting.

Essentially, all you need to do is remove the top cover of the computer (five screws) and note where the legs are screwed into the case; power cord unplugged, of course. One hole is up near the power switch and the other in the back under the fuse-holder area. With the particular table that I used, you only need two screws to hold the machine and it has a leg brace holding the bottom. Of course, if you need all four legs to be firmly mounted, you can remove the circuit board (two more screws on the back of the computer) and slide it out (after removing the necessary plug-in cables for the board power, speaker wires and disk drive cable).

Now you must locate some longer screws than those that are already in the Sanyo and simply attach the legs back on, but with the screws going through the table, using a washer for extra support, then through the legs, then the computer base, and finally putting a nut on inside the computer.

If you need screws under the circuit board area, be sure that they do not extend high enough to hit the circuit board and cause any short circuiting to the case. Since the circuit board would have to be slid back into place, I think this would be pretty obvious, but best to be cautious in this area. Replace anything you took off: circuit boards, back screws, cover and cover screws.

I looked at the specifications for TEAC drives and it appears there are no problems running the drives at 90 degrees. It says that the drives may be run with the handles up. That means to mount the Sanyo with the power switch at the top, which is convenient enough. I don't know how this mounting will affect any internal hard disk drives, so check with your manufacturer or dealer about those first.

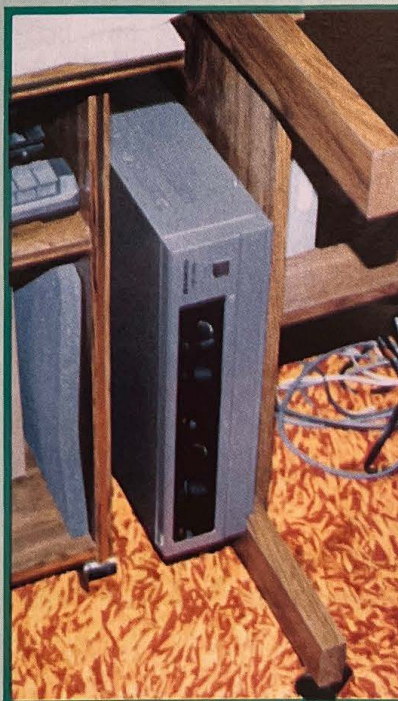
Now to the pros and cons. I recently went to a computer users group meeting to demonstrate how to upgrade the Sanyo beyond 256K RAM internally. I clearly didn't feel like taking my entire

computer desk with me! What used to be a fairly portable machine is now comfortably stuck at home. I can still easily remove the cover because I never put the bottom screws back on. In fact, I never leave any of the screws in the cover; I just slide it on and off (the first measure of a true hacker).

Sitting only four inches from the floor may cause some concern for dust, but I have experienced no problem with this in several months. I usually leave the system disk in place and it has not failed me yet.

Now to the children! There seemed to be an attraction to the drive lights, so buy a "RAM Disk" program or wire up one of your old original single-sided drives as a decoy (finally found a use for it!).

I am still able to remove the drives, the circuit board, and all of the cables, etc., easily enough with the vertical mounting. I like my table space and find the computer's new place convenient and comfortable to use. Now, if I could figure a way to mount my printer on the other side, I would have it made!



Mounting the 550/555 vertically to the side of the table frees up valuable disk-top space without sacrificing easy accessibility to the drives and power switch.

Trapped like a rat, you must race against the clock to attain that ever-elusive goal — freedom.

Simply Amazing

Have you ever worked yourself into a corner and felt as if you were caught in a maze? Well, this simulation requires you to call upon logic and luck to escape.

The idea of this game is to travel from one side of a maze to the other before your time runs out. The program flaunts Sanyo's impressive graphics capabilities by putting you in the maze. You view a three-dimensional corridor with doors leading to other corridors. You are also able to see the floor plan of the maze, and from there, you make all the decisions. I must mention though, that you can't see the walls of the maze in the plan view. However, you can see the outline of the maze with arrows indicating where you entered and where you must exit.

Your current position is constantly indicated on the plan by a flashing dot. Unfortunately, after traveling down a few corridors, it is easy to forget which



(David Marsh holds a bachelor's degree in architecture, a master's in business administration, and is currently working for the federal government in construction management. He may be contacted at 10811-B Amherst Ave., Wheaton, MD 20902.)

direction you are facing. That's why I have a handy little feature called "Magnification of Plan." The good news is that by requesting this plan, you can see a view showing walls in your immediate vicinity and also an arrow indicating your position and current direction. The bad news is that this special plan can only be seen for 15 seconds, and for the privilege, the program will steal 50 seconds of your time.

Most of the directional commands require a "two stage" input. For example, to exit a corridor through the second door on the right, at the prompt you would type 'R' for a right turn, and then '2' for the second door. I have made the "Command Options" screen very self-explanatory.

There are three skill levels to select from as follows: Level 1 is Novice, Level 2 is Highly Challenging and Level 3 is Expert. By the way, I have personally lost many a contest at levels 2 and 3. You can always increase the level of difficulty by lowering the amount of time assigned to the string PT\$ in lines 2260, 2460 and 2720.

To begin, just type in the program, save it using the name AMAZING and type RUN. While entering the program, you might find it convenient to use the AUTO command. This command automatically types the line numbers for you. Refer to the *Sanyo Operator's Guide* on the use of this command if

you are not familiar with it. Before playing the game, you should make sure the CAPS LOCK key is on. Also, be very careful to type in the correct numbers on line statements, paint statements and data statements.

In my efforts to keep the program as small as possible, the game as listed here only includes three mazes, one for each skill level. If you are adventurous and a fairly good programmer in BASIC, you may want to experiment and create your own additional mazes. Beware though — drawing mazes on graph paper and converting them to data statements took me longer than it did to write the program. Plus, debugging is a headache.

If you would like to have 12 additional mazes on disk, with the main program, ready to run, send me your name and address with a check for \$7.50 to cover reproduction, safe packaging and postage to: David Marsh, 10811-B Amherst Ave., Wheaton, Maryland 20902. (The program is also available on the July edition of SOFT SECTOR ON DISK.)

The following are my hints to many successful journeys:

- 1) Try to remember your current direction as long as possible.
- 2) Use the magnification feature very sparingly.

I hope you will get as much enjoyment out of this game as I already have.

A Maze Escape Simulation

By David Marsh Jr.

The listing: AMAZING.BAS

```

1 ' *****
2 ' *
3 ' *          S I M P L Y   A M A Z I N G          * (for personal enjoyment only,
4 ' *                      by                      * resale is not allowed)
5 ' *                      David Marsh              *
6 ' *                      10811-B Amherst Ave.      *
7 ' *                      Wheaton, MD 20902         *
8 ' *
9 ' *****
10 CLS:FOR T=10 TO 630 STEP 20:LINE(320,165)-(T,115),2
11 LINE(320,20)-(T,70),2:NEXT
12 SYMBOL(235,80),"David Marsh",2,1,3:SYMBOL(260,100),"presents",2,1,3
13 FOR T=1 TO 2500:NEXT:LINE(230,72)-(410,115),0,BF
14 SYMBOL(210,77),"SIMPLY",5,2,3:SYMBOL(185,95),"AMAZING",5,2,3
15 SYMBOL(135,170),"A Maze Escape Simulation",2,3,3
16 DIM A(33,33),CL$(5),CR$(5),B(11,11),RD(5),LD(5)
17 COLOR 2,0:FOR T=1 TO 5:READ CL$(T):NEXT
18 DATA 1 = 1st Door On The Left,2 = 2nd Door On The Left,3 = 3rd Door On The Left,4 = 4th Door On The Left,5 = 5th Door On The Left
19 FOR T=1 TO 5:READ CR$(T):NEXT
20 DATA 1 = 1st Door On The Right,2 = 2nd Door On The Right,3 = 3rd Door On The Right,4 = 4th Door On The Right,5 = 5th Door On The Right
21 SYMBOL(550,10),"SKILL LEVEL",1,2,3:SYMBOL(550,28),"(1,2 OR 3)?",1,2,3
22 LOCATE 7,78:Q9$=INPUT$(1):Q9=VAL(Q9$):LOCATE 7,72:COLOR 6,0:PRINT "loading"
23 COLOR 2,0
24 ON Q9 GOSUB 2220,2420,2700
25 INY=Y:INX=X:INV=V
26 CLS:SYMBOL(450,98),"COMMANDS",2,1,2:SYMBOL(8,185),"TIME LEFT:",1,2,3
27 SYMBOL(440,1),"PLAN VIEW",2,1,2:GOSUB 1850
28 PT=VAL(PT$):PT$=STR$(PT):SYMBOL(95,185),PT$,2,2,2
29 ' TO ORIENT POSITION
30 IF V=1 THEN R=-1:S=0:R1=-1:S1=1:R2=-1:S2=-1
31 IF V=2 THEN R=0:S=1:R1=1:S1=1:R2=-1:S2=1
32 IF V=3 THEN R=1:S=0:R1=1:S1=-1:R2=1:S2=1
33 IF V=4 THEN R=0:S=-1:R1=-1:S1=-1:R2=1:S2=-1
34 ' DEPTH OF HALL
35 X1=X:Y1=Y:IF A(X1,Y1)=2 THEN GOTO 2000
36 FOR T=1 TO 5:X1=R*2+X1:Y1=S*2+Y1:IF A(X1,Y1)=2 THEN GOTO 2000:' WINNER
37 IF A(X1,Y1)=1 THEN D=T:GOTO 290 ELSE NEXT T
38 ON D GOSUB 2160,2170,2180,2190,2200:' BASIC POINTS ON PERSPECTIVE
39 ' CHECK FOR DOORS ON RIGHT
40 FOR T=1 TO D:X1=X:Y1=Y:X1=X1+R1:Y1=Y1+S1
41 ON V GOSUB 330,340,350,360:NEXT T:GOTO 390
42 X1=X1-((T*2)-2):GOTO 370
43 Y1=Y1+((T*2)-2):GOTO 370
44 X1=X1+((T*2)-2):GOTO 370
45 Y1=Y1-((T*2)-2):GOTO 370
46 IF A(X1,Y1)=0 OR A(X1,Y1)=2 THEN RD(T)=0 ELSE RD(T)=1
47 RETURN
48 ' CHECK FOR DOORS ON THE LEFT
49 FOR T=1 TO D:X1=X:Y1=Y:X1=X1+R2:Y1=Y1+S2
50 ON V GOSUB 420,430,440,450:NEXT T:GOTO 480
51 X1=X1-((T*2)-2):GOTO 460
52 Y1=Y1+((T*2)-2):GOTO 460
53 X1=X1+((T*2)-2):GOTO 460
54 Y1=Y1-((T*2)-2):GOTO 460
55 IF A(X1,Y1)=0 OR A(X1,Y1)=2 THEN LD(T)=0 ELSE LD(T)=1
56 RETURN
57 ' DRAW ROOM

```



```

490 FOR N=1 TO 20:LOCATE N+1,2:PRINT CHR$(178):LOCATE 23-N,46:PRINT CHR$(178)
500 NEXT
510 FOR N=1 TO 44:LOCATE 22,1+N:PRINT CHR$(178):LOCATE 2,47-N:PRINT CHR$(178)
520 NEXT
530 LINE(G1,G)-(G2,H),2,BF:LINE(G1,G)-(G2,H),3,B:LINE(16,16)-(G1,G),3
540 LINE(358,16)-(G2,G),3
550 LINE(358,167)-(G2,H),3:LINE(17,167)-(G1,H),3:PAINT(18,165),2,3
560 PAINT(356,164),2,3
570 ' FLOOR LINES
580 ON D GOTO 630,620,610,600,590
590 LINE(130,97)-(246,97),2
600 LINE(116,106)-(260,106),2
610 LINE(95,119)-(281,119),2
620 LINE(68,136)-(308,136),2
630 J=(188-G1)/2
640 LINE(G1+J,H)-(101,167),2:LINE(188,H)-(188,167),2:LINE(G2-J,H)-(273,167),2
650 ' CEILING LINES
660 ON D GOTO 710,700,690,680,670
670 LINE(130,47)-(246,47),2
680 LINE(116,43)-(260,43),2
690 LINE(95,38)-(281,38),2
700 LINE(68,30)-(308,30),2
710 LINE(G1+J,G)-(101,16),2:LINE(188,G)-(188,16),2:LINE(G2-J,G)-(273,16),2
720 ' DRAW IN DOORS ON RIGHT
730 FOR T=1 TO D
740 IF RD(T)=0 THEN ON T GOSUB 760,780,800,820,840:NEXT:GOTO 860
750 NEXT:GOTO 860
760 LINE(314,142)-(314,45),0:LINE(351,163)-(351,40),0:LINE(314,45)-(351,40),0
770 PAINT(349,161),0,0:RETURN
780 LINE(287,123)-(287,49),0:LINE(303,134)-(303,47),0:LINE(287,49)-(303,47),0
790 PAINT(301,130),0,0:RETURN
800 LINE(266,109)-(266,52),0:LINE(278,117)-(278,50),0:LINE(266,52)-(278,50),0
810 PAINT(276,114),0,0:RETURN
820 LINE(251,100)-(251,54),0:LINE(259,105)-(259,53),0:LINE(251,54)-(259,53),0
830 LINE(251,100)-(259,105),0:PAINT(258,103),0,0:RETURN
840 LINE(240,93)-(240,56),0:LINE(240,56)-(245,55),0:LINE(245,96)-(245,55),0
850 PAINT(244,95),0,0:RETURN
860 ' DRAW IN DOORS ON LEFT
870 FOR T=1 TO D
880 IF LD(T)=0 THEN ON T GOSUB 900,920,940,960,980:NEXT:GOTO 1000
890 NEXT:GOTO 1000
900 LINE(62,142)-(62,45),0:LINE(25,163)-(25,40),0:LINE(62,45)-(25,40),0
910 PAINT(26,161),0,0:RETURN
920 LINE(89,123)-(89,49),0:LINE(73,134)-(73,47),0:LINE(89,49)-(73,47),0
930 PAINT(74,131),0,0:RETURN
940 LINE(110,109)-(110,52),0:LINE(98,117)-(98,50),0:LINE(110,52)-(98,50),0
950 PAINT(99,114),0,0:RETURN

```

The 768K SOLUTION

By John Domingues

512K RAM board	\$260.00
256K RAM board	\$180.00
Board with logic no RAM	\$100.00
Bare board	\$ 40.00

NEW LOW PRICES

PLUGS RIGHT IN

No C.O.D.'s

Guaranteed

Thumper Productions
3550 Londonderry Ln. S.W.
Roanoke, Virginia 24018

(703) 774-1484

YOUR SOUTHERN CALIFORNIA SANYO DEALER

HAMMER INDUSTRIES, INC.
5482 OCEANUS DRIVE, SUITE B
P.O. BOX 2419
HUNTINGTON BEACH, CA 92647

(213) 598-8869

(714) 898-7324

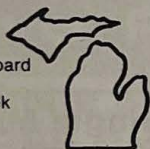
SANYO HARDWARE AND SOFTWARE SPECIALISTS
WE SUPPORT ALL WE SELL


```

960 LINE(125,99)-(125,54),0:LINE(117,104)-(117,53),0:LINE(125,54)-(117,53),0
970 PAINT(118,101),0,0:RETURN
980 LINE(136,93)-(136,56),0:LINE(131,96)-(131,55),0:LINE(136,56)-(131,55),0
990 PAINT(132,94),0,0:RETURN
1000 ' RECORD POINT ON PLAN
1010 IF RR=1 THEN PRESET(OLDY,OLDX) ELSE RR=1
1020 PSET(PLY+(Y*4),PLX+(X*2)),7:OLDY=PLY+(Y*4):OLDX=PLX+(X*2)
1030 GOSUB 1780
1040 ' RESUME COUNTDOWN
1050 SYMBOL(95,185),PT$,2,2,0:PT=PT-1:IF PT<0 THEN GOTO 1950 ELSE PT$=STR$(PT):S
YMBOL(95,185),PT$,2,2,2
1060 FOR T=1 TO 900:NEXT:Q$=INKEY$
1070 IF Q$="" THEN GOTO 1050
1080 IF Q$="M" THEN 1500
1090 IF Q$="T" THEN GOTO 1420
1100 IF Q$="L" THEN GOTO 1120
1110 IF Q$="R" THEN GOTO 1160 ELSE 1050
1120 COP=0:FOR T=1 TO D:IF LD(T)=1 THEN NEXT:GOTO 1050 ELSE GOSUB 1760
1130 FOR T=1 TO D:IF LD(T)=0 THEN COP=COP+1
1140 NEXT
1150 FOR T=1 TO COP:ON T GOSUB 2050,2060,2070,2080,2090:NEXT:QD=0:GOTO 1200
1160 COP=0:FOR T=1 TO D:IF RD(T)=1 THEN NEXT:GOTO 1050 ELSE GOSUB 1760
1170 FOR T=1 TO D:IF RD(T)=0 THEN COP=COP+1
1180 NEXT
1190 FOR T=1 TO COP:ON T GOSUB 2100,2110,2120,2130,2140:NEXT:QD=0
1200 FOR T=1 TO 2000:Q1$=INKEY$:IF Q1$="" THEN NEXT
1210 IF Q1$="" THEN GOSUB 1750:GOTO 1030 ELSE Q1=VAL(Q1$)
1220 IF Q1<1 OR Q1>COP THEN GOTO 1200
1230 IF Q$="L" THEN GOTO 1240 ELSE GOTO 1270

```

"Free" Sanyo Bulletin Board
(313) 348-4479
24 Hours 7 days a week



Orders and Information
(313) 348-4477

MICHIGAN SOFTWARE DISTRIBUTORS INC.

43345 GRAND RIVER
NOVI, MICHIGAN 48050

MICHIGAN SOFTWARE

SANYO HOST & BBS/Host program with free BBS	179.95
SPEED SCREEN/Speeds up video display for 2.11 only	24.95
BASIC ENHANCED/Adds commands such as Sound; Search; Line Editor & H copy for 2.11 only	34.95
SANYO SPOOLER/Print spooler, use 1-63K as a software spooler, don't wait for your printer	34.95
SCREEN PRINT/Prints screen to printer	29.95
RECIPE FILE/Stores and retrieves your recipes	39.95
U.S. CAPITALS & STATES/Geography lesson for young and old alike	29.95
PFKEY/Function key utility	9.95
PFKEY/Video board version	9.95
KEYWORD/Keyboard utility	9.95
SAVE SCREEN/Saves screen to disk	24.95
CHARACTER GEN/Generates your own characters	24.95
SDT/Error free program transfer; patch to your terminal	29.95

CUSTOM SANYO DUST COVERS

(Grey Leather "Like" — Two Year Warranty)

CRT 36/CPU or CRT 30/CPU - one unit	29.95
Keyboard - only/550 - 555 SERIES	12.00
Keyboard - only/775 SERIES	14.00
CPU - only or CRT - only	19.95
Made to Order: any Computer or Printer	Call \$

We also sell software from Michtron, U.S. Digital, TLS, Mark Data

NEW!! MARK DATA "GRAPHIC" ADVENTURES

Runs on SANYO 775 & SANYO 550/555 with VIDEO BOARD or IBM PC
TREKBOER • CALIXTO • SHENANIGANS
SEA SEARCH • BLACK SANCTUM — 29.95 EACH

VISIT OUR RETAIL STORE

DEALER INQUIRIES INVITED

• VISA, MASTERCARD, AMERICAN EXPRESS, C.O.D., CHECK •

Prices subject to change

Add 3.00 shipping and handling

FLOPPY STORAGE UP TO 3.2 MEG!!! External Drive Kits

\$115. (\$85. with Drive Order)

**Includes all Cables & Instructions.
Holds up to 2 Drives.**

DISK DRIVES

TEAC SS, DD (200K)	\$ 79.
TEAC DS, DD (400K)	\$129.
TEAC DS, QD (800K)	\$129. SALE
Second Drive	\$ 5 Less

1 YEAR WARRANTY ON ALL DISK DRIVES

— MT BASIC \$49.95 —
MULTI-TASKING & WINDOWING
BASIC COMPILER Yields Fast
Machine Code for the SANYO.

TOLL FREE ORDER LINE 800 245-6228
& LATEST PRICES:

NOTE: Add \$35. for AOK DOS which gives 8,9 or 10 sectors per disk and up to 0.8 meg per drive!!!



M.C. & VISA Accepted
OWL-Services
P.O. Box 116-D
Mertztown, PA.
19539

800 245-6228

PA Res Include 6% Tax
PA (215) 682-6855


```

1240 FOR T=1 TO D:IF LD(T)=0 THEN QD=QD+1
1250 IF QD=Q1 THEN QD=T ELSE NEXT
1260 GOTO 1290
1270 FOR T=1 TO D:IF RD(T)=0 THEN QD=QD+1
1280 IF QD=Q1 THEN QD=T ELSE NEXT
1290 ' TURN NEW DIRECTION
1300 ON V GOSUB 1310,1330,1350,1370:GOTO 1390
1310 X=X-(QD*2)+1:IF Q$="R" THEN Y=Y+1 ELSE Y=Y-1
1320 RETURN
1330 Y=Y+(QD*2)-1:IF Q$="R" THEN X=X+1 ELSE X=X-1
1340 RETURN
1350 X=X+(QD*2)-1:IF Q$="R" THEN Y=Y-1 ELSE Y=Y+1
1360 RETURN
1370 Y=Y-(QD*2)+1:IF Q$="R" THEN X=X-1 ELSE X=X+1
1380 RETURN
1390 IF Q$="R" THEN V=V+1:IF V=5 THEN V=1
1400 IF Q$="L" THEN V=V-1:IF V=0 THEN V=4
1410 GOSUB 1760:GOTO 1460
1420 LET V=V+2:IF V=5 THEN V=1
1430 IF V=6 THEN V=2
1440 GOSUB 1760
1450 ' ERASE OLD CORRIDOR VIEW
1460 LINE(7,7)-(370,176),0,BF
1470 ' RECORD POINT ON PLAN
1480 IF RR=1 THEN PRESET(OLDY,OLDX) ELSE RR=1
1490 PSET(PLY+(Y*4),PLX+(X*2)),7:OLDY=PLY+(Y*4):OLDX=PLX+(X*2):GOTO 200
1500 ' TRANSFER VALUES (MAGNIFICATION)
1510 PT=PT-50:' PENALTY FOR MAGNIFICATION
1520 GOSUB 1830

```

Small business accounting has never been easier...

LPR Bookkeeper

Accounts Receivable,
Accounts Payable,
General Ledger and Inventory

Beautifully Simple!

LPR Bookkeeper, designed especially for small businesses, is a completely menu driven double entry accounting system with excellent documentation.

Powerful!

Dynamic file allocation allows an average of 200 accounts with over 750 monthly transactions on 160Kb drives.

Does everything you'd expect a powerful accounting system to do: prints invoices, statements, checks, trial balance, profit & loss, balance sheet, detailed ledgers, sales analysis & extended standard reporting, on-hand/re-order reports, and global pricing. Other features include Rolodex® cards, mailing labels, auto billing, finance charges, auto/manual invoice pay selection, auto interfaces and three color displays.

Everything considered, including a
ninety-day limited warranty,
LPR Bookkeeper is

Simply Beautiful!



LA PLATA RESEARCH

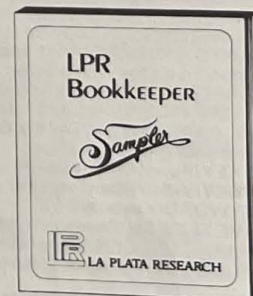
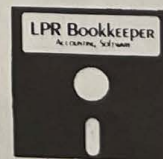
Single Module \$150

Tri-Pak \$375 Quad-Pak \$475

AP, AR, GL AP, AR, GL, INV

Minimum requirements: dual disk drives,
most 80 column printers.

For Sanyo MBC 555 with 160/360Kb drives
and IBM PC* and compatibles.



Or order the **\$10 Sampler** manual
and diskette, which includes
samplings of displays, reports
and manuals.

Dealer inquiries invited

PO Box 10612 Farmington, NM 87499
(505) 326-5833


```

1530 FOR N=1 TO 11
1540 FOR N1=1 TO 11:CE=X-6+N:CF=Y-6+N1
1550 IF CE<1 OR CF<1 OR CE>33 OR CF>33 THEN B(N,N1)=0:GOTO 1630
1560 IF N=6 AND N1=6 THEN ON V GOSUB 1580,1590,1600,1610:GOTO 1630
1570 GOTO 1620
1580 B(6,6)=24:RETURN
1590 B(6,6)=26:RETURN
1600 B(6,6)=25:RETURN
1610 B(6,6)=27:RETURN
1620 B(N,N1)=A(CE,CF)
1630 ' DRAW MAGNIFICATION OF PLAN
1640 IF B(N,N1)=1 THEN LOCATE N,53+N1*2:PRINT STRING$(2,177)
1650 IF N<>6 AND N1<>6 THEN 1700
1660 IF B(N,N1)=24 THEN LOCATE N,53+N1*2:PRINT CHR$(24)
1670 IF B(N,N1)=26 THEN LOCATE N,53+N1*2:PRINT CHR$(26)
1680 IF B(N,N1)=25 THEN LOCATE N,53+N1*2:PRINT CHR$(25)
1690 IF B(N,N1)=27 THEN LOCATE N,53+N1*2:PRINT CHR$(27)
1700 NEXT:NEXT
1710 'REPRODUCE MAIN PLAN AFTER 15 SECONDS THEN BACK TO INPUT
1720 FOR P=15 TO 1 STEP -1:FOR N=1 TO 1000:NEXT:IF INKEY$=CHR$(13) THEN 1740
1730 LOCATE 12,72:PRINT P:NEXT
1740 GOSUB 1830:GOSUB 1850:GOTO 1020
1750 ' SMALL ROUTINES
1760 ' TO ERASE COMMANDS
1770 LINE(375,110)-(638,199),0,BF:RETURN
1780 ' INITIAL OPTIONS
1790 FOR T=1 TO D:IF LD(T)=0 THEN SYMBOL(390,113),"L = Left Turn",1,2,2 ELSE NEX
T
1800 FOR T=1 TO D:IF RD(T)=0 THEN SYMBOL(390,131),"R = Right Turn",1,2,2 ELSE NE

```

SANYO FOR LESS

FREE Diskette Storage Boxes FREE Catalog

*Convert IBM BASICA to Sanyo BASIC	
Limited Time Only.....	\$29.95
*Unprotect IBM/Sanyo BASIC.....	\$24.95
*Supplement For Basic — 70 Pages.....	\$5.00
*Key Plus Program.....	\$14.95
Tool Box — Includes all the	
above 4 Products.....	\$53.95
Sanyo Video Board.....	CALL
The Ultimate — 7 in 1 integrated software.	
Limited Quantities.....	\$69.95
The Merchandiser™ — Point Of Sale For Sanyo..	\$459.00
Irish Diskettes DSDD — 10 per box.....	\$14.00/Box
Scotch/3M Diskettes — DSDD.....	\$1.70 each
SSDD.....	\$1.10 each
Run Lotus 1-2-3 Without The Video Board.....	\$39.95
Dustcovers To Fit Your Sanyo - Many Styles.....	CALL
128K Memory Upgrade.....	CALL
COPYLINK™ — Limited Time Only.....	\$74.95
CPeMULATOR™ — Limited Time Only.....	\$74.95
Sanyo RS232.....	CALL

CALL FOR MANY MORE SPECIALS

**If you see an identical item advertised in this issue of Soft Sector for less,
CALL US and we'll MATCH OR BEAT the price!

- ★ Add \$2.00 for postage and handling. ★
- ★ COD orders extra ★
- ★ Dealers inquiries invited ★
- ★ Check, Visa, Mastercard and Money Order ★

BLOCK MARKETING, INC.
6009 Wayzata Blvd., suite 102B
Minneapolis, MN 55416
(612) 546-3776

(Block Marketing is a recognized Sanyo Dealer.)
*MN residents must add 6% Sales Tax.

NEW DISK DRIVES

STARTING AT

\$129.00

WITH CASE &
POWER SUPPLY
\$199.95

We carry only the finest quality disk drives - no seconds - no surplus

SATISFACTION GUARANTEED!!

ALL DRIVES FULLY TESTED & WARRANTED

\$129
Your Choice
TEAC
55B 55F
48TPI-96TPI
Five Inch Single Sided Drives

New Low Price!



40 or 80 Tracks
1 2 High Teac/Panasonic

40 Trk 80K
Diskette Format
Diskette Density

40 or 80 Tracks

1 2 High Teac/Panasonic

40 Trk 80K
Diskette Format
Diskette Density

40 or 80 Tracks

1 2 High Teac/Panasonic

40 Trk 80K
Diskette Format
Diskette Density

40 or 80 Tracks

1 2 High Teac/Panasonic

40 Trk 80K
Diskette Format
Diskette Density

40 or 80 Tracks

1 2 High Teac/Panasonic

40 Trk 80K
Diskette Format
Diskette Density

40 or 80 Tracks

1 2 High Teac/Panasonic

40 Trk 80K
Diskette Format
Diskette Density

40 or 80 Tracks

1 2 High Teac/Panasonic

40 Trk 80K
Diskette Format
Diskette Density

40 or 80 Tracks

1 2 High Teac/Panasonic

40 Trk 80K
Diskette Format
Diskette Density

40 or 80 Tracks

1 2 High Teac/Panasonic

40 Trk 80K
Diskette Format
Diskette Density

40 or 80 Tracks

1 2 High Teac/Panasonic

40 Trk 80K
Diskette Format
Diskette Density

40 or 80 Tracks

1 2 High Teac/Panasonic

40 Trk 80K
Diskette Format
Diskette Density

40 or 80 Tracks

1 2 High Teac/Panasonic

40 Trk 80K
Diskette Format
Diskette Density

40 or 80 Tracks

1 2 High Teac/Panasonic

40 Trk 80K
Diskette Format
Diskette Density

40 or 80 Tracks

1 2 High Teac/Panasonic

Printers



\$239.95
Printer Only

STAR MICRONICS
Germes 10 x 120 cps SG10 \$239.95
Germes 15 x 120 cps 15 cps SG15 CALL
PowerType 18 cps 18 cps qual 389-

Panasonic.

Panasonic 1090 CALL

Panasonic 1091 CALL

MONITORS

GORILLA 79.95

Amdak

* Model 300

* Color Composite

(300 x 260)

\$249.95

MODEMS

MODEMS - Cable Included

Suprema Mark II 300 BAUD 99.95

Suprema Mark II 300/1200 BAUD 129.95

Suprema Mark II 300/1200 BAUD 159.95

Single ps&case \$44.95 Dual 1/2 ht ps&case \$54.95

DISKETTES with free library case.....

Unadvertised Specials.....

Drives cleaned, aligned & tested.....

TECHNICAL STAFF ON DUTY PLEASE CALL FOR ASSISTANCE

CALL US TODAY!! (617) 234-7047

ORDER TOLL FREE 1-800-635-0300

DEALER & DISTRIBUTOR

INQUIRIES INVITED

(617) 234-7047



TRUE DATA PRODUCTS

195 Linwood Street, P.O. Box 546

Linwood, Massachusetts 01525

(617) 234-7047

HOURS MON SAT 9-6 (EST)

We welcome

Visa/Master Charge

Checks (allow 2 weeks for clearing)

COD Add \$2.00


```

XT
1810 SYMBOL(390,149),"T = Turn Around",1,2,2:SYMBOL(390,167),"M = Magnify the Pl
an",1,2,2
1820 RETURN
1830 ' TO ERASE PLAN VIEW
1840 FOR T=1 TO 12:LOCATE T,48:PRINT STRING$(32,32):NEXT:RETURN
1850 K=0
1860 SYMBOL(440,1),"PLAN VIEW",2,1,2:LINE(PLY,PLX)-(PLY+SIZ*4,PLX+SIZ*2),2,B
1870 ON INV GOSUB 1900,1910,1920:SYMBOL(PLY-11+INY*4,PLX-3+INX*2),IN$,1,1,2
1880 ON OUTV GOSUB 1900,1910,1920:SYMBOL(PLY+OUTY*4,PLX-K+OUTX*2),IN$,1,1,2
1890 GOTO 1930
1900 IN$=CHR$(24):K=9:RETURN
1910 IN$=CHR$(26):K=3:RETURN
1920 IN$=CHR$(25):RETURN
1930 IF RR=1 THEN PRESET(OLDY,OLDX) ELSE RR=1
1940 PSET(PLY+(Y*4),PLX+(X*2)),7:OLDY=PLY+(Y*4):OLDX=PLX+(X*2):RETURN
1950 ' THE LOSER
1960 CLS:SYMBOL(230,40),"SORRY . . .",2,3,3
1970 SYMBOL(80,85),"YOU DIDN'T MAKE IT OUT IN TIME",2,3,3
1980 SYMBOL(300,160),"PLAY AGAIN? (Y/N)",2,3,3:LOCATE 22,75:T$=INPUT$(1)
1990 IF T$="Y" THEN GOTO 120 ELSE CLS:END
2000 ' WINNING ROUTINE
2010 CLS:SYMBOL(175,40),"CONGRATULATIONS !!",2,3,3
2020 SYMBOL(15,85),"YOU MADE IT WITH",2,3,3:SYMBOL(270,85),PT$,2,3,3
2030 SYMBOL(350,85),"SECONDS TO SPARE",2,3,3:GOTO 1980
2040 ' show options routine
2050 SYMBOL(390,113),CL$(T),1,2,2:RETURN
2060 SYMBOL(390,131),CL$(T),1,2,2:RETURN
2070 SYMBOL(390,149),CL$(T),1,2,2:RETURN
2080 SYMBOL(390,167),CL$(T),1,2,2:RETURN
2090 SYMBOL(390,185),CL$(T),1,2,2:RETURN
2100 SYMBOL(390,113),CR$(T),1,2,2:RETURN
2110 SYMBOL(390,131),CR$(T),1,2,2:RETURN
2120 SYMBOL(390,149),CR$(T),1,2,2:RETURN
2130 SYMBOL(390,167),CR$(T),1,2,2:RETURN
2140 SYMBOL(390,185),CR$(T),1,2,2:RETURN
2150 ' shortest hall length (1 unit)
2160 G1=68:G=30:G2=308:H=136:RETURN
2170 G1=95:G=38:G2=281:H=119:RETURN
2180 G1=116:G=43:G2=260:H=106:RETURN
2190 G1=130:G=47:G2=246:H=97:RETURN
2200 G1=138:G=50:G2=238:H=91:RETURN
2210 '
2220 ' A1A LEVEL ONE MAZE
2230 RESTORE 2270:FOR X=1 TO 15:FOR Y=1 TO 15:READ A(X,Y):NEXT:NEXT
2240 FOR X=1 TO 15:FOR Y=16 TO 33:A(X,Y)=0:NEXT:NEXT
2250 FOR X=16 TO 33:FOR Y=1 TO 33:A(X,Y)=0:NEXT:NEXT
2260 X=14:Y=1:V=2:PLX=35:PLY=48:OUTY=15:OUTX=6:OUTV=2:SIZ=15:PT$="400":RETURN
2270 DATA 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1
2280 DATA 1,0,1,0,0,0,0,0,0,0,0,0,1,0,1
2290 DATA 1,0,1,1,1,0,1,1,1,0,1,0,1,0,1
2300 DATA 1,0,0,0,1,0,0,0,1,0,1,0,0,0,1
2310 DATA 1,1,1,0,1,1,1,0,1,1,1,0,1,0,1
2320 DATA 1,0,0,0,0,0,1,0,0,0,1,0,1,0,2
2330 DATA 1,1,1,0,1,1,1,0,1,0,1,1,1,0,1
2340 DATA 1,0,1,0,0,0,1,0,1,0,1,0,1,0,1
2350 DATA 1,1,1,0,1,0,1,0,1,1,1,0,1,1,1
2360 DATA 1,0,1,0,1,0,0,0,0,0,0,0,1,0,1
2370 DATA 1,0,1,0,1,1,1,0,1,1,1,1,1,0,1
2380 DATA 1,0,1,0,0,0,1,0,1,0,0,0,0,0,1

```



```

2390 DATA 1,0,1,0,1,0,1,0,1,0,1,1,1,0,1
2400 DATA 1,0,0,0,1,0,0,0,0,0,1,0,0,0,1
2410 DATA 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1
2420 'A2A LEVEL 2 MAZE
2430 RESTORE 2470:FOR X=1 TO 23:FOR Y=1 TO 23:READ A(X,Y):NEXT:NEXT
2440 FOR X=1 TO 23:FOR Y=24 TO 33:A(X,Y)=0:NEXT:NEXT
2450 FOR X=24 TO 33:FOR Y=1 TO 33:A(X,Y)=0:NEXT:NEXT
2460 X=18:Y=1:V=2:PLX=29:PLY=464:OUTY=20:OUTX=1:OUTV=1:SIZ=23:PTS="400":RETURN
2470 DATA 1,1,1,1,1,1,1,1,1,1,1,1,1,1,1,2,1,1,1
2480 DATA 1,0,0,0,0,0,0,0,0,0,1,0,1,0,0,0,1,0,0,0,0,0,1
2490 DATA 1,0,1,1,1,1,1,0,1,1,1,0,1,0,1,1,1,0,1,1,1,0,1
2500 DATA 1,0,0,0,0,0,1,0,0,0,0,0,0,0,1,0,1,0,1,0,1,0,1
2510 DATA 1,1,1,0,1,0,1,0,1,1,1,1,1,0,1,0,1,1,1,0,1,0,1
2520 DATA 1,0,1,0,1,0,1,0,1,0,0,0,1,0,0,0,0,0,0,0,0,0,1
2530 DATA 1,1,1,0,1,1,1,1,1,1,1,0,1,0,1,1,1,1,1,1,1,0,1
2540 DATA 1,0,0,0,0,0,0,0,0,0,1,0,1,0,1,0,0,0,0,0,1,0,1
2550 DATA 1,1,1,0,1,0,1,0,1,1,1,0,1,1,1,1,1,0,1,0,1,0,1
2560 DATA 1,0,0,0,1,0,1,0,0,0,0,0,0,0,0,0,1,0,1,0,1,0,1
2570 DATA 1,0,1,1,1,1,1,1,1,0,1,0,1,1,1,0,1,0,1,1,1,0,1
2580 DATA 1,0,0,0,1,0,0,0,1,0,1,0,1,0,1,0,1,0,0,0,0,0,1
2590 DATA 1,0,1,1,1,1,1,0,1,1,1,0,1,0,1,1,1,0,1,1,1,1,1
2600 DATA 1,0,1,0,0,0,1,0,0,0,0,0,1,0,0,0,1,0,0,0,1,0,1
2610 DATA 1,0,1,1,1,0,1,0,1,1,1,1,1,0,1,1,1,0,1,0,1,0,1
2620 DATA 1,0,0,0,1,0,0,0,1,0,0,0,0,0,0,0,0,0,1,0,0,0,1
2630 DATA 1,1,1,0,1,0,1,0,1,1,1,1,1,0,1,1,1,1,1,1,1,0,1
2640 DATA 1,0,0,0,0,0,1,0,0,0,1,0,0,0,0,0,1,0,0,0,1,0,1
2650 DATA 1,0,1,0,1,1,1,1,1,0,1,1,1,0,1,1,1,0,1,1,1,0,1
2660 DATA 1,0,1,0,1,0,1,0,1,0,0,0,0,0,0,0,0,0,1,0,1,0,1
2670 DATA 1,0,1,1,1,0,1,0,1,1,1,1,1,1,1,0,1,0,1,0,1,0,1

```

768K ** THE MISSING LINK ** 768K EXPANSION * MEMORY * CLOCK * SOFT VIDEO

UPGRADE 256K TO 768K — COMPLETELY PLUG-IN — USES 256K RAMS

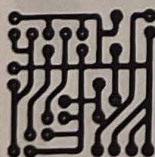
- MAINTAINS EXPANSION BUS WITH TWO 62 PIN EXPANSION PORTS
- BUILT-IN REAL TIME CLOCK/CALENDAR (BATTERY BACKUP)
- EXPANDED INTERRUPT STRUCTURE TO ACCOMMODATE ADDITIONAL DEVICES
- SOFT VIDEO OPTION — UNIQUE COMBINATION OF SOFTWARE AND HARDWARE ALLOWS ADDED IBM COMPATIBILITY — SIMILAR TO SANYO VIDEO BD. AT NO EXTRA COST
- COMPLETE WITH INSTALLATION SOFTWARE
- ALL OF WHICH ARE STANDARD FEATURES OF THE "MISSING LINK"

PLUG-IN RAM BOARDS		RETAIL	SALE
256K-768K MISSING LINK (NO MEMORY)	#550-768	\$259.95	\$199.95
256K-768K MISSING LINK (256K MEMORY)	#550-7688	\$339.95	\$259.95
256K-768K MISSING LINK (512K MEMORY)	#550-76816	\$419.95	\$319.95

* SPECIFY WITH OR WITHOUT SANYO VIDEO BD. OPTION *
CALL FOR LATEST MEMORY CHIP PRICES

512K PIGGY-BACK RAM KIT-REQUIRES LESS THAN 30 MINS. TO INSTALL
Fully Compatible — With VIDEO BOARD, & Existing Hardware & Software

128K TO 512K RAM KIT—	Kit #118	\$99.95
DS-DOS PLUS, M-DISK, PRINT SPOOLER		\$CALL
4164-150 NS CHIPS		\$CALL
256K CHIPS 120-150NS		\$CALL
6 FOOT PRINTER CABLE		\$19.95



TAMPA-BAY DIGITAL
(813) 527-7145

5620 - 4th Street North
St. Petersburg, Fl. 33703
VISA/MASTERCARD ACCEPTED-
PRICES REFLECT 3% CASH DISCOUNT
24 HR. MODEM (813) 526-1644

SANYO 550 EXPANSION BOX

THIS WILL ALLOW USER TO PLUG
SPECTRUM AND SOME IBM* BOARDS,
FOR EXPANDING YOUR SANYO.

495⁰⁰

INTRODUCTORY OFFER

DISK DRIVE

TEAC 55B	112
TEAC 55F	119

MEMORY UPGRADE

64K (150NS)	16.95
128K (150NS)	36.95

ACCESSORIES

8087 APU CHIP	129
VIDEO BOARD	159

BULK DISK

20 SS/DD DISKS	19.00
20 DS/DD DISKS	23.00

SOFTWARE BY SPECTRUM SOLUTIONS

Q-BREAKER 24.95
UNPROTECTS PROTECTED BASIC PROGRAMS SAVED FROM SANYO BASIC

LOGMASTER 24.95
KEEPS TRACK OF COMPUTER USAGE FOR BUSINESS AND TAX PURPOSES

SPECTRUM UTILITY PAK 29.95
LOTS OF UTILITIES LIKE MUSIC, ALARM CLOCK AND FAMOUS HACK COPY WHICH COPIES MANY PROTECTED PROGRAMS FROM LEADING MANUFACTURERS

TYPEWRITER 19.95
USE YOUR SANYO AS A TYPEWRITER YOU ONLY NEED TO KNOW TWO COMMANDS

MASTERBRAIN 24.95
A GAME OF SKILL AND CHALLENGE BE THE MASTERBRAIN!

DEALER GRAPHICS DEMO 29.95
THIS AMAZING GRAPHICS DEMONSTRATOR WILL SELL SANYO BY SHOWING YOUR CUSTOMERS THE SUPERIOR GRAPHICS ABILITY OF THE SANYO

**DEALERS! CALL FOR INFORMATION ON OUR
MAILING LIST SERVICE**

"ENTER SPECTRUM SWEEPSTAKES"
CALL FOR DETAILS

**DEALER AND DISTRIBUTOR INQUIRES INVITED
SPECTRUM SOLUTIONS**

(513) 236-6527 • P.O. BOX 246 • DAYTON, OHIO 45409

PRICES MAY REFLECT A 3% CASH DISCOUNT MC & VISA, MONEY ORDER CASH-
IERS CHECK ACCEPTED PERSONAL OR COMPANY CHECKS REQUIRE 2 - 3
WEEKS TO CLEAR SHIPPING & HANDLING FEE EXTRA OHIO RESIDENTS ADD 6%
TAX RESTOCKING FEE OF 20% FOR ALL RETURNED MERCHANDISE

NOW. SANYO POWER.

AT ... COMPUTER CREATIONS

*Let Us Customize A Sanyo
Computer System to Fit Your Needs!*



HARDWARE

675 MBC
555-2 w/software
775 Portable Color **Call**
360K DS/DD Drive w/software **For**
360K DS/DD Drive **Updated**
RS 232C **Prices**
128K Memory
Video Expansion Board
880 MBC

EPSON PRINTERS

LX-80 (80 column) **Call For**
LX-80 Tractor Feed **Updated**
Epson FX-80+ (80 column) **Prices**

STAR MICRONICS PRINTERS

SG-10 (80 column)
SG-15 (136 column)
SD-10 (80 column) **Call**
SR-10 (80 column) **For**
Powertype Daisywheel **Prices**
Powertype Tractor Feed

PANASONIC PRINTERS

KX-1090 **Call**
KX-1091 **For**
KX-1092 **Prices**
LQ-3151
Parallel Printer Cable 19

PRINTER RIBBONS

Gemini Printers (Black) 3
Gemini Printers (Blue/Red/
Purple/Brn./Green) 5
Epson Printers 8
Panasonic Printers, Black 8
Panasonic Printers, Color 11

FLOPPY DISKS AS LOW AS 99¢ EACH

DISKETTES (2 box minimum) 10 per box

	Generic (SKC)	Wabash	Maxell	BASF (Bulk)	BASF (Ea) 3 1/2"
# Boxes	SS/DD	SS/DD	SS/SD	SS/DD	SS/DD
2	10.99	13.99	18.99	9.90	3.49
3 - 6	9.99	12.99	17.99	8.90	3.19
7 - 10	8.99	11.99	16.99	7.90	2.99

MONITORS

Sanyo 12" Green
Sanyo 12" Amber **Call**
Sanyo CRT 30 Green **For**
Sanyo CRT 36 Green **Prices**
Sanyo CRT 70 Color
Sanyo CRT 50 Color

MODEMS

Volksmodem (300 BAUD) 69.95
Signalman Mark X (300 BAUD) 129.95
Signalman Mark XII
(300/1200 BAUD) 259.95
Volksmodem Cable 12.00

SOFTWARE

INFOCOM

Zork I 28
Zork II 32
Zork III 32
Deadline 35
Starcross 35
Suspended 35
Witness 28
Planetfall 28
Enchanter 28
Infidel 32
Sorcerer 32
Invisiclus 7

MICHTRON

Mi-Term 68
Picasso 88
Freeze Frame 33

OTHERS

OES Accounts Receivable 79
OES Accounts Payable 79

U.S. DIGITAL

Copylink **Call**
Merchandise **Call**
CpeMulator **Call**

ACCESSORIES/BOOKS

ACCESSORIES

Flip n' File 10 4
Flip n' File 15 7
Original Flip n' File 50 14
Flip n' File Cart Case 12
Library Cases (10 colors) 4
Disk Bank/5 (holds 50) 12
Disk Bank (Holds 10) 5
Power Strip (6 outlet) 16
Lineguard Spike Suppressor 13
Disk Drive Cleaning Kit 13
MicroMate Paper
(20#, 540 sheets) 10
Printer Stand (wire) 19
Sanyo System Cover 20
Printer Covers **Call**

MANUALS/BOOKS

GW Basic Reference 39
MS DOS 2.1 44
WordStar Reference 39
ReportStar Reference 39
DataStar Reference 29
MailMerge Reference 29
SpellStar Reference 29
Sanyo MBC User's Handbook 17

To order call TOLL FREE
1-800-824-7506

ORDER LINE ONLY

COMPUTER CREATIONS, Inc.

P.O. BOX 493 - DAYTON, OHIO 45459

For information call (513) 435-6868 (Or to order in Ohio)



No extra charge
for MasterCard
or Visa

Order Lines Open 9:00 a.m. to 9:00 p.m. Mon.-Fri.; 10 a.m. to 4:00 p.m. Sat. (Eastern Standard Time). Minimum \$10 per order. C.O.D. (add \$3.00). Call toll free number to verify prices and availability of product. Hardware requires additional freight charges. Software and accessories add \$3.00 shipping and handling in Continental United States. Actual freight will be charged outside U.S. to include Canada, Alaska, Hawaii, Puerto Rico and APO. Ohio residents add 6% sales tax. For immediate delivery send cashier's check, money order or direct bank transfers. Personal and company checks allow 3 weeks to clear. School purchase orders welcome. Due to our low prices, all sales are final. NO CREDITS. All defective returns must have a return authorization number. Please call (513) 435-6868 to obtain an RA# or your return will not be accepted for replacement or repair.

INPUT/OUTPUT

TIM PURVES

Soft Sector Contributing Editor

Q. On the rear of the Sanyo 550 Video RAM Board there are three unmarked pins sticking up. What are they used for?

John Orlando
Bethlehem, PA

A. On my Video RAM Board there are two sets of pins: one set of four, and another set of six. These pins are used for a light pen and a video modulator. In theory, an IBM-compatible light pen could be hooked up and used on the Sanyo. The pin definitions are as follows:

Connector 1 (four pins, video modulator)

- 1 +12 volts
- 2 No connection
- 3 Composite video output
- 4 Signal ground

Connector 2 (six pins, light pen interface)

- 1 Light pen output
- 2 No connection
- 3 Light pen switch
- 4 Signal ground
- 5 +5 volts
- 6 +12 volts

If anyone successfully connects an IBM light pen to the Sanyo, please let me know.

Q. It is my understanding that using the Reset button on the Sanyo temporarily shorts out the five-volt supply to many of the I.C. chips and then reinstates it. I have heard that frequent resetting of the machine can be harmful. Is this true? Could you comment on the Reset and perhaps suggest alternate Reset methods.

Tim Frazer
Ormond Beach, FL

A. The Reset on the Sanyo doesn't short out the five-volt supply to any of the chips; it simply supplies a logical high signal to Pin 21 of the Intel 8088. When Pin 21 of

the 8088 goes high, the following events occur:

- 1) Flags register is set to zero (turns off single step and disables interrupts).
- 2) DS, SS, ES and PC registers are set to zero.
- 3) CS register is set to FFFFh.
- 4) Execution of program starts at FFFF:0000; Sanyo Boot ROM.
- 5) System software is attempted to be loaded from drive 0, track 0, sector 1.
- 6) If successful the DOS prompt is displayed.

There is no problem with resetting the computer as often as needed.

Q. I would like to interface several eight-bit TTL parallel ports to the Sanyo for controlling the "outside world." The lack of documentation has made this job difficult, so any help would be appreciated.

Bill Blood
Orono, MA

A. The internal 62-pin connector mimics the IBM expansion connector except for the DMA signals. On the Sanyo ports, less than 40h are used by the system hardware. On systems with the video board ports, 3d0-3df are used for the video controller. The 8088 microprocessor can address 65,000 ports, with the exceptions of those used by the system. This leaves a lot of room for "outside word" interfacing.

The pinout of the Sanyo edge connector is listed below. A trailing hyphen (-) means an active low signal.

Sanyo	Description
A1 NMI-	Non-maskable interrupt
A2-A9 D7-D0	Data lines
A10 RDY	Processor ready (8088 Pin 22)
A11 AEN	Address enable
A12-A31 A19-A0	Memory/IO address lines
B1 GND	Signal ground
B2 RES	Reset to external device
B3 VCC	+5 volts

B4-B6	NC	No connection
B7	-12v	-12 volts
B8	RG-/GT-	Used in signaling external processors
B9	+12v	+12 volts
B10	GND	Signal ground
B11	MWR-	Memory write
B12	MRD-	Memory read
B13	IOW-	I/O write
B14	IOR-	I/O read
B15-B19	NC	No connection
B20	CLK	3.58 Mhz
B21	IR7	External hardware interrupt 7
B22-B27	NC	No connection
B28	ALE	Address latch enable
B29	VCC	+5 volts
B30	CLK1	14.318 Mhz
B31	GND	Signal ground

Q. Is there a way to make BEEP.COM work on a Sanyo 555-2 when using EasyWriter I? We love the "chirp" but can't stand the "honk"!

Gerald Jones
Burke, VA

A. The reason the Beep program doesn't work with EasyWriter I is because the authors of EW bypassed the BIOS to ring the bell. Fear not, however! Since several people have asked for this, here is the patch for EasyWriter I Ver 1.3. Follow the steps below.

Place a copy of EW I in drive B:. (A backup copy!)

Place a copy of your system diskette in drive A:.

Reset the system.

Type the following commands:

```
debug b:ewprgm.com (press ENTER)
e dc1 b0 35 34 08 e6 3a 8a e0 fe cc 75 fc e2
f4
  (press ENTER)
w (press ENTER)
q (press ENTER)
```

The disk in drive B: has just been patched with the Beep routine.

Q. Is there any way to make WordStar run from a "RAM Disk" drive C: while having the default drive set to B:? When I try this, WordStar tries to read drive A: for the overlay files.

Floyd Johnson
Niceville, FL

A. To make effective use of WordStar on a RAM Disk, use the INSTALL program and install WordStar to use drive C: as the default drive. When using WordStar, just copy the overlay files up to the RAM Disk. By installing WordStar's default drive, it knows where to look for the overlay files. This will allow you to log any other drive as the data drive.

The **TOP** FREEFORM FILER

Special Introductory Price: \$99.95

The Premier Text/Filing Program!

SOFT SECTOR MAGAZINE SAID: No other filing program 'can match the abilities and capabilities' of the FREEFORM FILER for 'applications that require a lot of text, very variable search criteria, speed and efficiency!'

UNIQUE CAPABILITIES:

- ✓ **THE OBJECTIVE:** Designed for busy and creative individuals who want the FREEDOM to randomly store information, but need the POWER to retrieve that information in seconds.
- ✓ **THE KEYWORD SYSTEM:** As you enter or edit your text, you can select any word as a "KEYWORD" or "KEYPHRASE." Each "CARD" can contain as many as 117 KEYWORDS, and up to nine pages of text similar to a 3" x 5" card, with no field restrictions. Each "FILE DRAWER" can contain up to 32,767 pages!
- ✓ **THE EDIT:** Includes an onscreen editing menu, word wrap, moving lines within a page, and card duplication.
- ✓ **THE SEARCH:** Search for the Card Title, KEYWORD, or a combination of both. Plus, "WILD CARD SEARCHES" save time!
- ✓ **THE RESULTS:** List the titles of cards found in the search, print the cards, or write them to a disk file for later printing or use with a word processor.

GIVE YOU MORE ABILITIES:

- ★ **BUSINESS:** Appointments, office phone and address indexes, inventory, service calls, vendor lists, and sales orders.
 - ★ **ATTORNEYS:** Find the cases affected by new court decisions.
 - ★ **DOCTORS:** List all patients affected by new medications.
 - ★ **WRITERS AND RESEARCHERS:** For indexing, cross-referencing or cataloging.
 - ★ **PERSONAL:** The possibilities are endless... art and coin collections, bill paying, income tax records, and home inventory.
- NOTE: The FREEFORM/FILER integrates data into the "POWER MANAGER." Requires 64K and at least one disk drive.

TOTAL OFFICE PLANNING **TOP** SOFTWARE presents

The **TOP** POWER MANAGER

Special Introductory Price: \$199.95

SOFT SECTOR MAGAZINE SAID:

"TOP/Power Manager was designed with the user in mind. It allows the user to build simple or complex structures with minimal effort. This in turn allows the end user to utilize time more efficiently making business decisions, and less time making database decisions."

"A powerful and easy-to-use system. The Sorting/Selecting and Report Generating capabilities are excellent. TOP/Power Manager is a database management system designed to meet the end user's needs."

POWERFUL CAPABILITIES:

- ✓ A greater STORAGE CAPACITY than higher-priced programs. Each database can contain 32,767 records, with up to 150 fields in each record and 50 characters in each field.
- ✓ This menu-driven program has a real ease-of-use and has SORT and REPORT GENERATION capabilities more POWERFUL than many of the hard-to-use databases.
- ✓ SORTING on any field or on a combination of fields. Plus, extra power from the "OR SORT" and descending sort features.
- ✓ Intricate math CALCULATING between fields, plus the ability to do TOTALS and COLUMN AVERAGES.
- ✓ The POWER MANAGER comes with an extensive Tutor.

GIVE YOU MORE ABILITIES:

- ★ **POWER MANAGER** can create CUSTOMIZED LETTERS, INVOICES, COLUMNAR REPORTS, OR LABEL FORMATS!
 - ★ Use the Report Generator feature with a text editor to write PERSONAL LETTERS to a LARGE GROUP of individuals who meet the geographic, date or monetary criteria you select!
 - ★ **PUT THE POWER MANAGER TO WORK FOR YOU** to do: customer mailings... past due notices... invoicing... sales analysis... inventories... credit, insurance and employee records, client profile reports, tracking stock portfolios, and much more.
 - ▶ **THE POWERFUL BOTTOM LINE:** We take the competition head on, and The POWER MANAGER is at the TOP of its class!
- Requires 128K. TOP programs run on the Sanyo MBC 550 and 555, and also are available for IBM and compatibles.

► ORDERING INFORMATION: TOP SOFTWARE
2431 E. Douglas • Wichita, Kansas • 67211

► OR CALL TOLL-FREE: 1-800-255-1382 Ext.47

Call between 7 a.m. and 7 p.m. CST. We accept VISA, MC, AMEX, money orders and checks. Add \$3 shipping and handling. NOTE: TOP SOFTWARE, formerly TMP, is a division of The United Software Co.

Q. Is there any way to change the default drive in BASIC?
*Dave Blossom
 Livonia, MI*

A. To the best of my knowledge there is no way to change the default drive in Sanyo BASIC. Some of the later versions of BASIC for the IBM are able to accomplish this, so maybe we will see it in a later version of Sanyo BASIC.

Q. While trying to import ASCII files into Sanyo BASIC, I constantly get "Bad File Data" errors. What could I be doing wrong?
*Richard Schiavo
 Lumberton, NC*

A. The format of an ASCII file needed by Sanyo BASIC is defined as follows:

- 1) No leading cr/lf (carriage return/line feed).
- 2) No line number 0.
- 3) Line numbers must be sequential in order.
- 4) No lines longer than 240 characters.
- 5) Each line must be terminated by a cr/lf pair.

Featured in the May, 1985 issue of **SOFT SECTOR** was an assembly language listing of a keyboard patch to allow Microsoft's *Flight Simulator* to run on the MBC-550/555 equipped with the Video RAM Board and two double-sided drives. For those readers who are unfamiliar with assembly language programming and have not yet

obtained the patch from **SOFT SECTOR ON DISK** or some other source, the following program written in Sanyo BASIC will, when run, create the **FLIGHT.COM** file.

For more complete information on using the patch, refer to the article, "Off Into The Wild Blue," Page 52 of the May issue.

The listing: FLIGHT.BAS

```
10 ' create flight.com 5-16-85 Timothy Purves
20 CLS:SYMBOL(20,20),"Flight Simulator",3,3,2
30 LOCATE 10,1:PRINT "Program by Timothy Purves":PRINT :PRINT "Creating File .."
;
40 OPEN "r",1,"flight.com",1
50 FIELD 1,1 AS A$
60 FOR X=0 TO 79
70 READ B$,SUM:LSUM=0
80 FOR Z=0 TO 15
90 TMP=VAL("&h"+MID$(B$,Z*2+1,2))
100 LSET A$=CHR$(TMP):LSUM=LSUM+TMP
110 PUT 1,X*16+Z+1
120 NEXT:PRINT ". ";
130 IF LSUM<>SUM THEN PRINT "Error in Data, Line ";X*16+160
140 NEXT:CLOSE
150 PRINT " Completed.":END
160 DATA "E97E010D0A4F7574204F66204D656D6F",1338
170 DATA "72790D0A07240D0A4465627567204E6F",1032
180 DATA "7420466F756E640D0A0724746D702E24",1141
190 DATA "2424006E756C0064656275672E636F6D",1291
200 DATA "000000000000000000000000000000",0
210 DATA "006E613A66732E636F6D6C0D673132",1183
220 DATA "390D740D673132640D61323764350D69",987
230 DATA "6E742034300D6A6D7020323766380D0D",1019
240 DATA "65646365312065632030330D65646365",1227
250 DATA "362065652030330D6564636665206530",1116
260 DATA "2030330D65646430332065322030330D",871
270 DATA "65323334662039302039300D65323766",951
280 DATA "342039302039300D670D6E613A66732E",983
```

BINARY TREE TECHNOLOGY

(513) 879-4214 P.O. Box 1757, FAIRBORN, OHIO 45324

SPECIAL
REAL TIME CLOCK BOARD
 NOW AVAILABLE\$89.00

PC LOGO™

**NOW AVAILABLE FOR
 YOUR SANYO**

WE NEED ORIGINAL SOFTWARE

IF YOU HAVE A PROGRAM

WORTH MARKETING CALL

ACCESSORIES

180K DRIVE	\$119
360K DRIVE	169
800K DRIVE	CALL
8087 APU CHIP	CALL
A,B,C,D,Drive Cable	CALL
RS-232 + MODEM SOFTWARE	99
RS-232	59
64K MEMORY (150NS)	49
128K MEMORY (150NS)	99
JOYSTICK	29
550 COMPUTER COVER	19
6' KEYBOARD CABLE	18
PRINTER CABLE	24
RGB CABLE	20
AUTO DIAL/ANSW MODEM	149
330 BAUD MODEM	65
DUAL JOYSTICK ADAPTER	15

SOFTWARE FOR SANYO

8088 ASSEMBLER TUTORIAL	\$39
SANYO BASIC TUTORIAL	49
MS DOS TUTORIAL	39
BINARY TREE FORTH	99
BIORHYTHM	19
ASYNCR (MODEM S/W)	49
ADVENTURE 1 (128K)	29
MAIL LIST HANDLER	39
SCREEN DUMP	39
CP/M EMULATOR	80
GRAPHICS PACKAGE	69
COPYLINK	80
PASCAL COMPILER	45
FORTRAN 87	299
DATA MANAGER	39
CAVES OF CARACOROS	29
SEARCH FOR SHARDS	19

DEALER & DISTRIBUTOR INQUIRIES INVITED

Please send cashier check or money order. Personal or company check, allow bank clearance. Visa/MC add 3%. Shipping and handling 3%. Restocking fee for all returned merchandise.

As the hostile ships warp into the atmosphere, you alone can prevent the Earth's total destruction.

Stellar Blast

By Steven J. Baldwin

Although there are certainly many serious applications for a home computer, even the most avid programmer needs some amusement now and then. Many letters and articles have been written regarding the superb graphics potential of the Sanyo 550 series computers. *Stellar Blast* will display some of those powers and, at the same time, provide some entertainment that we all need from time to time.

Stellar Blast is a BASIC game which will sharpen one's hand/eye coordination while testing the player's ability to concentrate. A routine has been included to maintain the names of the top 10 players, along with the scores they achieved. This top 10 list can be the source of continuing challenge, since no matter how well you do, there will always be a goal to beat.

The object of the game is to see how many alien ships you can destroy before you are killed. Player movements are made by use of the direction arrows on the numeric keypad. Your ion cannon is discharged by pressing the up arrow. Your ship is able to move from side to side by means of a warp at the screen's edge.

Both you and the aliens are armed with ion disintegrators. Your ship is automatically protected by the on-board computer. Thus, when an alien fires his ion disintegrator at you, your on-board computer will send out an ion deflector ray (this will occur only if your ship has enough energy).

Your energy, score and wave of attack are all monitored in the upper left-hand box, while general information, such as danger messages, bonus points, terminated aliens or the pause message, is handled in the upper right-hand box. The top 10 scores are displayed in the lower right-hand corner, while the top score of the day is displayed in the lower left-hand corner.

To use the pause function, all you need to do is depress the space bar. When you are ready to continue the game, simply hit any key.

The speed is sometimes slow, but this cannot be helped due to the speed with which BASIC processes information. The alien's functions are directed using arrays, which makes the programming much easier and the program run faster.

When an alien ship reaches the bottom of the playing screen it does not end the game; instead, it becomes more difficult to eliminate them without the loss of vital energy. Some may disappear by moving behind another alien ship or having another alien ship run them over (this is their way of making a surprise attack). You can keep track of the number of invisible aliens by watching the terminated aliens readout inside the general information box.

After you complete a wave of alien invaders, you will be faced with another wave which will begin lower on the screen, thereby increasing the difficulty of the game. Each wave consists of 20 alien ships which are worth a random number of points (zero to 30), with a bonus added at the end of each wave. This bonus is based on the remaining energy you have at the end of each wave.

Good luck and have fun!

Stellar Blast Breakdown Chart

10-100	Title and acknowledgments
110-120	Sound routine; clears space for and loads the machine code required for the generation of sound in Sanyo BASIC
130-200	Opening graphics
210-250	Playing screen graphics, plus general definitions
260	Setup and display of arrays
270-320	Player and program manipulation (INKEY\$).
330-370	Player destroys alien craft
380-440	Movement of alien ship
450-460	Enemy fires back
470-730	General use GOSUBS
740-830	File GOSUBS

(Steven Baldwin, a 15-year-old high school student, has been writing games in Sanyo BASIC for the past year. He may be contacted at 12095 S.W. 47th Street, Miami, FL 33175.)

(Taken from the source code for *Run'Round*, SOFT SECTOR, December '84, Page 31.)

CLI		;DISABLE
		INTERRUPTS
MOV	BP,SP	;BP => STACK
PUSH	DS	;SAVE SEGMENT
		REGISTER.
LDS	BX,dword ptr 8[BP]	;GET NOTE ADDRESS
MOV	CX,[BX]	;GET NOTE
LDS	BX,dword ptr 4[BP]	;GET DURATION
		ADDRESS
MOV	DX,[BX]	;GET DURATION
PUSH	CS	

POP	DS	;SET DATA SEGMENT
MOV	NOTE,CX	;SAVE NOTE
MOV	AX,35h	;SET OUTPUT BYTE
XOR	AL,8	;TOGGLE "BREAK" BIT
OUT	3Ah,AL	;TELL USART PLAY1:
DEC	AH	;DECREMENT COUNT
JNZ	short PLAY2	;LOOP FOR DELAY
DEC	DX	;DECREMENT DURATION
JZ	short EXIT	;JP IF DONE PLAY2:
LOOP	PLAY1	;CONTINUE DELAY
MOV	CX,NOTE	;RESET DELAY
JMP	short PLAY	;CONTINUE FOR DURATION
XOR	AL,8	;TOGGLE CONTROL BIT
CMP	AL,35h	;"BREAK" NOW ON?
JNZ	short EXIT1	;JP IF NOT
OUT	3Ah,AL	;RESET USART EXIT1:
POP	DS	;RESTORE SEGMENT
db	0CAh,8,0	;RETF 8
ends		
end	PENTRY	

```

100 ' +-----+
200 ' | STELLAR BLAST |
300 ' +-----+
400 ' | By: Steven J. Baldwin |
500 ' + 12095 S.W. 47st, Miami, Fla. 33175 +
600 ' | Phone: 305-226-7201 |
700 ' +-----+
800 ' | Permission granted for personal use only |
900 ' +-----+
1000 '
1100 CLEAR 20:DEFINT A-Z:DEFSTR J:DEF SEG=SEG(4):FOR X=&H100 TO &H13B:READ J:POKE
  X,VAL("&H"+J):NEXT:TU=&H11D
1200 DATA EB,2,0,0,FA,8B,EC,1E,C5,5E,8,8B,F,C5,5E,4,8B,17,E,1F,2E,89,E,2,1,B8,35,
  0,34,8,E6,3A,FE,CC,75,3,4A,74,9,E2,F7,2E,8B,E,2,1,EB,EC,34,8,3C,35,75,2,E6,3A,1F
  ,CA,8,0
1300 LOCATE 1,1,0:COLOR 2,0:CLS:H2=639:V2=199:C=1:FOR A=1 TO 6:LINE(H,V)-(H2,V2),
  C,BF:H=H+20:V=V+10:H2=H2-20:V2=V2-10:C=C+1:IF C<=2 THEN NEXT:ELSE C=0:NEXT
1400 H=25:V=27:FOR A=1 TO 28:H=H+20:SYMBOL(H,V),CHR$(232),1,1,6,3:NEXT:FOR A=1 TO
  15:V=V+10:SYMBOL(H,V),CHR$(232),1,1,6,3:NEXT:FOR A=1 TO 27:H=H-20:SYMBOL(H,V),C
  HR$(232),1,1,6,3:NEXT:FOR A=1 TO 14:V=V-10:SYMBOL(H,V),CHR$(232),1,1,6,3
1500 NEXT:H=222:V=100:L=84:LE=220:C=3:DATA S,T,E,L,L,A,R,*,B,L,A,S,T,+
1600 READ A$:IF A$="" THEN A$=CHR$(32)
1700 IF A$<>"+" THEN SYMBOL(H,V),CHR$(127),1,1,7:GOSUB 630:SYMBOL(LE,70),A$,2,2,C
  :SYMBOL(LE+3,70),A$,2,2,C-2:SYMBOL(H,V),CHR$(127),1,1,0:GOSUB 640:GOTO 160 ELSE
  V=110:H=224:LE=29:L=95:COLOR 3,0:DATA (,B,y,-,S,t,e,v,e,n,,J,a,m,e,s,,B,a,l,d,w,
  i,n,)+
1800 READ A$: IF A$<>"+" THEN SYMBOL(H,V),CHR$(127),1,1,7:GOSUB 630:LOCATE 12,LE:
  PRINT A$:SYMBOL(H,V),CHR$(127),1,1,0:GOSUB 650:GOTO 180 ELSE 190
1900 COLOR 2,0:H=318:V=122:LOCATE 18,34:PRINT "Space To Begin"
2000 A$=INKEY$:IF A$=" " THEN CLS:GOTO 210 ELSE GOSUB 670:GOTO 200
2100 DIM S(11),A(21),B(21),REC(11),PSC$(11),PNAM$(11):LINE(0,128)-(110,150),4,BF:
  LINE(4,131)-(106,147),0,BF:LINE(0,28)-(110,90),5,BF:LINE(4,31)-(106,87),0,BF:LOC

```



```

ATE 16,2:PRINT "TODAY'S HIGH":LOCATE 2,1:COLOR 7,0:PRINT "Stellar Blast"
220 LOCATE 24,1:COLOR 5,0:PRINT "S. J. Baldwin":LINE(113,0)-(515,199),3,B:LINE(1
17,2)-(511,197),3,B:LINE(519,6)-(631,89),5,B:LINE(519,17)-(631,21),5,B:LINE(520,
41)-(630,41),5:LOCATE 2,67:PRINT "General Info":COLOR 2,0:LOCATE 4,67:PRINT "TER
MINATED"
230 LOCATE 5,67:PRINT "ALIENS-":COLOR 5,0:LOCATE 13,69:PRINT "TOP TEN":GOSUB 780
:IF LOF(1)=0 THEN PUT #1,1:CLOSE ELSE GET #1,1:FOR A=1 TO 10:REC(A)=CVS(PSC$(A))
:PNAM$(A)=NA$(A):NEXT:CLOSE:LO=13:COLOR 4,0:FOR A=1 TO 10:GOSUB 790:NEXT
240 COLOR 2,0:IET=0:F=15:WAVE=0:CS=0:LL=5:LOCATE 5,2:PRINT "Energy-":LOCATE 5,9:
COLOR 6,0:PRINT CHR$(177)+CHR$(177)+CHR$(178)+CHR$(178)+CHR$(219):COLOR 2,0:LOCA
TE 8,2:PRINT "Score- 0 ":LOCATE 11,2:PRINT "Wave-"
250 SYMBOL(PH,PV),CHR$(219),1,1,0:PH=300:PV=185:D=100:WAVE=WAVE+1:LOCATE 11,7:PR
INT WAVE
260 FOR A=1 TO 20:D=D+20:A(A)=D:NEXT:FOR A=1 TO 20:B(A)=F:NEXT:FOR A=1 TO 20:SYM
BOL(A(A),B(A)),CHR$(232),1,1,2,3:NEXT
270 X$=INKEY$:SYMBOL(PH,PV),CHR$(127),1,1,0:IF C=7 THEN C=0:COLOR C,0:LOCATE 8,7
0:PRINT "DANGER":LOCATE 9,68:PRINT "Low Energy":COLOR 2,0 ELSE IF LL<=2 THEN C=7
:COLOR C,0:LOCATE 8,70:PRINT "DANGER":LOCATE 9,68:PRINT "Low Energy":COLOR 2,0
280 IF X$=CHR$(28) THEN PH=PH-20:GOSUB 620:IF PH<120 THEN PH=500
290 IF X$=CHR$(29) THEN PH=PH+20:GOSUB 620:IF PH>500 THEN PH=120
300 SYMBOL(PH,PV),CHR$(127),1,1,7:IF X$=CHR$(30) THEN 330 ELSE IF X$=CHR$(32) T
HEN 310 ELSE 380
310 LINE(520,42)-(630,88),0,BF:LOCATE 8,69:PRINT "Depress":COLOR 3,0:LOCATE 9,69
:PRINT "Any Key":COLOR 2,0:LOCATE 10,69:PRINT "To Cont."
320 X$=INKEY$:IF X$="" THEN 320 ELSE LINE(520,42)-(630,88),0,BF:GOTO 380
330 FOR A=1 TO 20:IF B(A)=0 THEN 340 ELSE IF A(A)=PH AND B(A)>0 THEN SH=A:O=B(A)
340 NEXT:IF SH>0 THEN 350 ELSE 380
350 LINE(PH+3,PV)-(PH+3,B(SH)-2),7:NN=2:QQ=3:CALL &H100,NN,QQ:LINE(PH+3,PV)-(PH+
3,B(SH)-2),0:SYMBOL(A(SH),B(SH)-6),CHR$(219),1,1,7:SYMBOL(A(SH),B(SH)-6),CHR$(21
9),1,1,0:GOSUB 610
360 CH=178:FOR A=1 TO 3:SYMBOL(A(SH),B(SH)-6),CHR$(CH),1,1,7:SYMBOL(A(SH),B(SH)-
6),CHR$(CH),1,1,0:GOSUB 610:CH=CH-1:NEXT
370 O=0:CS=CS+ABS(INT(RND*30)):LOCATE 8,8:PRINT CS:IET=IET+1:COLOR 3,0:LOCATE 5,
74:PRINT IET:B(SH)=0:SH=0:COLOR 2,0:GOSUB 600
380 FOR A=1 TO 21:B(21)=1:IF B(A)=0 THEN NEXT:ELSE IF A=21 THEN 470
390 GOSUB 730:Z=ABS(INT(RND*21)):IF B(Z)=0 THEN 390
400 SYMBOL(A(Z),B(Z)),CHR$(232),1,1,0,3
410 IF A(Z)<PH THEN A(Z)=A(Z)+20 ELSE IF A(Z)>PH THEN A(Z)=A(Z)-20
420 B(Z)=B(Z)+20:IF B(Z)>=195 THEN B(Z)=185
430 SYMBOL(A(Z),B(Z)),CHR$(232),1,1,2,3:IF A(Z)=PH THEN GOSUB 730:R=ABS(INT(RND*
3))
440 IF A(Z)=PH AND B(Z)=PV THEN BEEP:LL=LL-1:GOSUB 570:IF LL=0 THEN 480 ELSE 270
450 IF R>1 AND A(Z)=PH THEN 460 ELSE IF LL=0 THEN 480 ELSE 270
460 LINE(A(Z)+4,B(Z)+1)-(PH+4,PV-5),3:NN=2:QQ=3:CALL &H100,NN,QQ:GOSUB 510:LL=LL

```

SANYO 550 OWNERS: Receive A Diskette With Latest Updates Of Sanyo:

- | | |
|------------------------------------|-------------------------------|
| 1. User Groups | |
| 2. Software For Sanyo | 64K Memory Upgrade \$28.00 |
| 3. Exchange of Programs | Flight Simulator Patch \$5.00 |
| (SUPPLIED VIA PUBLIC DOMAIN) | |
| 4. Bulletin Boards | |
| 5. List of Sanyo Magazine Articles | |
| 6. Hardware For Sanyo | |

SEND \$8.00 TO:

DIVERSIFIED COMPUTERS
204 STONEWALL DRIVE
P.O. BOX 1083
SPRINGFIELD, TN 37172-1083

OR

DIVERSIFIED COMPUTERS
623 RED LANE RD.
SUITE 104
BIRMINGHAM, AL 35215
Phone (205) 836-5049

FastStar

FastStar makes WordStar go fast

FastStar triples the speed of WordStar's screen output on Sanyo MBC-550/555 computers. No kidding! FastStar should not be confused with patches that only speed up scrolling since FastStar speeds up all screen output. FastStar also provides ramdisk support to even further increase WordStar's performance. Ramdisk software for MS-DOS 2.X is included.

To order send \$20.00 to:
[check or money order,
price includes postage]

PT Software
149-C Overmount Ave
West Paterson, NJ 07424


```

-1:GOSUB 570:IF LL<=0 THEN 480 ELSE 270
470 SYMBOL(240,100),"ROUND COMPLETED",1,2,4:GOSUB 700:SYMBOL(240,100),"ROUND COM
PLETED",1,2,0:IF WAVE>=6 THEN 250 ELSE F=F+20:GOTO 250
480 SYMBOL(230,100),"GAME OVER",2,2,5:GOSUB 740
490 LOCATE 21,30:INPUT "PLAY AGAIN (Y/N)";X$:IF X$="Y" OR X$="y" THEN LINE(520,4
2)-(630,88),0,BF:LOCATE 5,74:PRINT " ":GOTO 500 ELSE IF X$="N" OR X$="n" THEN
GOTO 830 ELSE 490
500 LOCATE 23,32:INPUT "<CR> To Begin";B$:IF B$="" THEN LINE(118,3)-(508,196),0,
BF:GOTO 240 ELSE 500
510 IF LL>1 THEN 520 ELSE 550
520 LINE(PH+3,PV)-(PH+3,PV-10),7:GOSUB 660:LINE(PH+3,PV)-(PH+3,PV-10),0:LINE(PH,
PV-2)-(PH+8,PV-8),7:GOSUB 660:LINE(PH,PV-2)-(PH+8,PV-8),0:LINE(PH-2,PV-5)-(PH+10
,PV-5),7:GOSUB 660:LINE(PH-2,PV-5)-(PH+10,PV-5),0:LINE(PH,PV-8)-(PH+8,PV-2),7:GO
SUB 660
530 LINE(PH,PV-8)-(PH+8,PV-2),0:LINE(PH+3,PV-2)-(PH+3,PV-8),7:GOSUB 660:LINE(PH+
3,PV-2)-(PH+3,PV-8),0:LINE(PH+2,PV-3)-(PH+6,PV-7),7:GOSUB 660:LINE(PH+2,PV-3)-(P
H+6,PV-7),0:LINE(PH,PV-5)-(PH+8,PV-5),7:GOSUB 660:LINE(PH,PV-5)-(PH+8,PV-5),0
540 LINE(PH+2,PV-7)-(PH+6,PV-3),7:GOSUB 660:LINE(PH+2,PV-7)-(PH+6,PV-3),0:LINE(P
H+3,PV-5)-(PH+5,PV-5),7:GOSUB 660:LINE(A(Z)+4,B(Z)+1)-(PH+4,PV-6),0:LINE(PH+3,PV
-5)-(PH+5,PV-5),0:RETURN
550 BEEP:LINE(A(Z)+4,B(Z)+1)-(PH+4,PV),0:SYMBOL(PH,PV),CHR$(219),1,1,7:SYMBOL(PH
,PV),CHR$(219),1,1,0:GOSUB 610
560 CH=178:FOR A=1 TO 3:SYMBOL(PH,PV),CHR$(CH),1,1,7:SYMBOL(PH,PV),CHR$(CH),1,1,
0:GOSUB 610:CH=CH-1:NEXT:RETURN
570 IF LL>=5 THEN LIVES$=CHR$(177)+CHR$(177)+CHR$(178)+CHR$(178)+CHR$(219) ELSE
IF LL=4 THEN LIVES$=CHR$(177)+CHR$(177)+CHR$(178)+CHR$(178)+" " ELSE IF LL=3 THE
N LIVES$=CHR$(177)+CHR$(177)+CHR$(178)+" "
580 IF LL=2 THEN LIVES$=CHR$(177)+CHR$(177)+" " ELSE IF LL=1 THEN LIVES$=CHR$(17
7)+" " ELSE IF LL=0 THEN LIVES$=""
590 COLOR 6,0:LOCATE 5,9:PRINT LIVES$:COLOR 2,0
600 IF CS>SR THEN SYMBOL(18,132),CHR$(219)+CHR$(219)+CHR$(219)+CHR$(219)+CHR$(21
9),2,2,0:SR=CS:SYMBOL(8,132),STR$(CS),2,2,2:RETURN ELSE RETURN
610 NN=180:QQ=1:CALL &H100,NN,QQ:RETURN
620 NN=80:QQ=5:CALL &H100,NN,QQ:RETURN
630 LINE(H+3,V)-(H+3,L),7:NN=2:QQ=3:CALL &H100,NN,QQ:LINE(H+3,V)-(H+3,L),0:RETUR
N
640 H=H+16:LE=LE+16:RETURN
650 H=H+8:LE=LE+1:RETURN
660 NN=5:QQ=1:CALL &H100,NN,QQ:RETURN
670 LINE(H+3,V)-(H+3,V-10),7:LINE(H+3,V)-(H+3,V-10),0:LINE(H,V-2)-(H+8,V-8),7:LI
NE(H,V-2)-(H+8,V-8),0:LINE(H-2,V-5)-(H+10,V-5),7:LINE(H-2,V-5)-(H+10,V-5),0:LINE
(H,V-8)-(H+8,V-2),7
680 LINE(H,V-8)-(H+8,V-2),0:LINE(H+3,V-2)-(H+3,V-8),7:LINE(H+3,V-2)-(H+3,V-8),0:
LINE(H+2,V-3)-(H+6,V-7),7:LINE(H+2,V-3)-(H+6,V-7),0:LINE(H,V-5)-(H+8,V-5),7:LINE
(H,V-5)-(H+8,V-5),0

```

EXPAND to 512K+ or a BUILT-IN MODEM

- **RAM Board** — Expands the 550/555 to 512K+
Plugs in with **NO** modifications necessary.

100% Compatible, Switchable from 256K to 512K
Fully Assembled \$249

- **BUILT-IN MODEM** — 300/1200 Auto
Answer/Auto Dial \$ CALL

- DS-DOS 1.25* \$ 25
- DS-DOS 2.11* \$ 39
- RAM Disk* \$ 27
- Printer Spooler* \$ 27

*When Ordered with RAM Board

- 128K RAM 150 ns or less \$25
- WordStar Command Template \$ 9
- SpellStar/Mailmerge Command Template \$ 9

Call For Other Hardware/Software Products.
DEALER INQUIRIES WELCOME

BMC ENTERPRIZES

P. O. Box 1047 • Poway, CA 92064
(619) 566-9555

Add 3% for VISA or Mastercard
All orders plus shipping & handling
CA Residents add 6% Sales Tax.

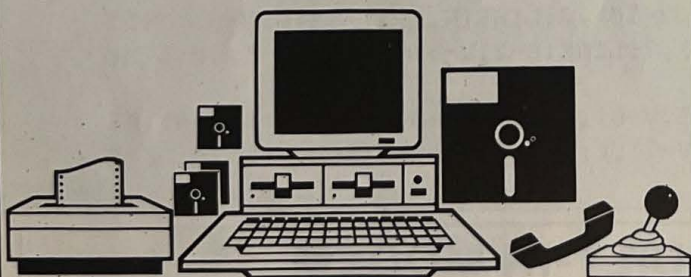

```

690 LINE(H+2,V-7)-(H+6,V-3),7:LINE(H+2,V-7)-(H+6,V-3),0:LINE(H+3,V-5)-(H+5,V-5),
7:LINE(H+3,V-5)-(H+5,V-5),0:RETURN
700 LINE(520,42)-(630,88),0,BF
710 LOCATE 7,70:COLOR 5,0:PRINT "BONUS":BONUS=LL*50:FOR A=0 TO BONUS STEP 2:LOCA
TE 9,70:COLOR 7,0:PRINT A:NN=4:QQ=2:CALL &H100,NN,QQ:NEXT:LOCATE 11,67:COLOR 7,0
:PRINT "Energy Added":FOR A=1 TO 1800:NEXT:CS=CS+BONUS:LOCATE 8,8:PRINT CS:LL=LL
+1:GOSUB 570
720 LIN=41:LIN2=89:FOR A=1 TO 24:LIN=LIN+1:LIN2=LIN2-1:LINE(520,LIN)-(630,LIN),4
:LINE(520,LIN2)-(630,LIN2),4:NEXT:LINE(520,42)-(630,88),0,BF:COLOR 2,0:RETURN
730 RS=INP(32):R1=INP(34):RS=256*R1-32768!:R1=INP(34):RANDOMIZE (RS):RETURN
740 IF CS>REC(10) THEN LOCATE 17,28:PRINT "NAME (Max 8 characters)":COLOR 3,0:LO
CATE 19,34:INPUT PNAME$:IF LEN(PNAME$)<8 THEN PNAME$=PNAME$+STRING$(8-LEN(PNAME$)),3
2) ELSE PNAME$=LEFT$(PNAME$,8)
750 FOR A=10 TO 1 STEP -1:IF CS>REC(A) THEN 760 ELSE RETURN
760 IF PNAME$(A)="" THEN PNAME$(A)=" "
770 REC(A+1)=REC(A):REC(A)=CS:PNAME$(A+1)=PNAME$(A):PNAME$(A)=PNAME$:LO=13:GOSUB 810
:NEXT:RETURN
780 OPEN"R",#1,"STELRECS":FOR A=1 TO 10:FIELD #1,A*12-12 AS DU$,8 AS NA$(A),4 AS
PSC$(A):NEXT:RETURN
790 IF REC(A)>=10 AND REC(A)<100 THEN LO2=77 ELSE IF REC(A)>=100 AND REC(A)<1000
THEN LO2=76 ELSE IF REC(A)>=1000 THEN LO2=75 ELSE LO2=78
800 LO=LO+1:LOCATE LO,66:PRINT PNAME$(A):LOCATE LO,LO2:PRINT REC(A):RETURN
810 COLOR 4,0:FOR B=1 TO 10:LO=LO+1:GOSUB 820:LOCATE LO,66:PRINT PNAME$(B):LOCATE
LO,LO2:PRINT REC(B):LOCATE LO,76:PRINT CL$:NEXT:RETURN
820 IF REC(B)>=10 AND REC(B)<100 THEN LO2=77:CL$=" ":RETURN ELSE IF REC(B)>100 A
ND REC(B)<1000 THEN LO2=76:CL$="":RETURN ELSE IF REC(B)>1000 THEN LO2=75:CL$="":
RETURN ELSE LO2=78:CL$=" ":RETURN
830 GOSUB 780:FOR I=1 TO 10:LSET NA$(I)=PNAME$(I):LSET PSC$(I)=MKS$(REC(I)):NEXT:
PUT #1,1:CLOSE:CLS:END

```

5

Canadian Sanyo owners and dealers



Compusoft manufactures and distributes
Michtron software programs
in Canada.

We fully support the
Sanyo 550 and 555 series
of computers. Please write for
your FREE catalog and newsletter.

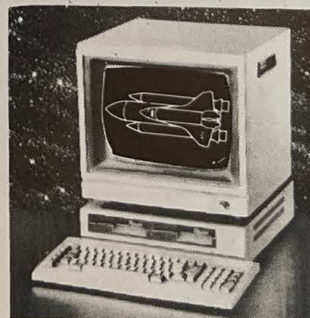
C **COMPUSOFT**

P.O. BOX 11659, EDMONTON, ALBERTA T5J 3K8, (403) 429-2098

1-800-437-4757 EXT. 241

INTRODUCING SANYCAD

Computer Associates puts CAD in reach. With SANYCAD and a standard MBC-550 with 192K RAM, you can generate schematics, mechanical drawings, architect layouts, and business presentations with superb accuracy.



INTRODUCTORY PRICE

\$99.⁹⁵

Last chance at low
introductory price.
Improved circle routines.
Please specify 2.11 or
1.25 DOS

PRINTER UTILITY

\$39.⁹⁵

Send for our catalog—Sanyo Applications

Send large SASE
for current list of
IBM software that
runs on the Sanyo
550 series.

Dealer inquiries invited. Send
\$5.00 for demo disk and
tutorial.

**Computer
Associates,
Inc.**

Tech. Support 701-281-0549
24 HOUR BBS 701-281-0233

Box 683
West Fargo, ND 58078



A-OK Computers

The Center of Creation and Dissemination of Sanyo PC Software and Hardware

The A-OK™ DOS Family

"Upgrade your MS-DOS 1.25 or 2.11 and Video Board"

All members of the **A-OK DOS** family add these features to your MS-DOS 1.25 or 2.11:

- **A-OK DOS** supports RAM expansion to 960K.
- With the Video Board, **A-OK DOS** uses 24K less memory than the "competition". With extended memory, **A-OK DOS** uses 55K less memory than the "competition".
- **A-OK DOS** now includes free high-quality ramdisk software—**TurboDrive550** (a \$33 value).
- Still the only text dump for 2.11 automatically transferred via **FORMAT /S**.
- Prints a screenful of text to any Sanyo-compatible printer.
- Interactive mode
 - It works with one keystroke in DOS, BASIC and all other software packages that run on the Sanyo.
 - Does not interfere with program execution or affect the data.
- Batch mode
 - Can be activated in BASIC by a one-line command.
 - Interrupt-driven and can be called from programming languages.
- Supports the only graphics screen dump software built into DOS—**PrintScreen550**.
- Includes a special "Sorted Directory" utility.
- Has a utility to strip the high-order bit off WordStar document files.
- User-controlled scrolling in all subsystems, not just DOS.
- **A-OK DOS** system messages are easier to understand.
- Supports up to 4 disk drives.

A-OK DOS versions for MS-DOS 1.25 correct flaws in MS-DOS 1.25 without sacrificing its strengths.

- All **A-OK DOS/1.25** are much faster and use far less memory than any version of MS-DOS 2.11.
- Runs all software that comes with the Sanyo.

A-OK DOS versions for MS-DOS 2.11:

- Run all software which runs on the Sanyo under MS-DOS 2.11 and Video Board.
- PLUS special support for Sidekick™ and Flight Simulator™.
- Support installable drivers for hard disks, etc.

Comparing **A-OK DOS-3** and **DS DOS+**, the *Sanyo PC Hackers Newsletter* states "In a nutshell, you get more for your money in A-OK's package".

A-OK has tailored different versions of its DOS for varying disk drive configurations. This makes our ad more complex, but our DOS more efficient and easier for you to use.

A-OK DOS-1™

"Not just another Double-Sided DOS"

- Any combination of up to four single and double-sided drives.
- Double-sided drives support single and double-sided diskettes.
- 8 and 9 sector formats—360K, 320K, 180K, and 160K.

A-OK DOS-1/1.25 or **A-OK DOS-1/2.11** and Video Board \$35

A-OK DOS-2™

"Increase the Capacity of your Current Drives"

- All the features and formats of **A-OK DOS-1**
- PLUS it reads, writes, and formats 10-sector formats
 - 400K per double-sided diskette on DSDD drives
 - 200K per single-sided diskette on SSDD and DSDD drives
 - uses ordinary diskettes
 - pays for itself in saved diskettes.

A-OK DOS-2/1.25 or **A-OK DOS-2/2.11** and Video Board \$45

800K PER DISK DRIVE

A-OK DOS-3™

"A-OK DOS for Double and Quad-Density Drive Systems"

- All the features of **A-OK DOS-2**
- PLUS up to 4 double-density and quad-density drives
 - on double-density drives:
 - reads and writes all formats read by 1.25 and 2.11
 - reads, writes, and formats 200K SSDD diskettes
 - reads, writes and formats 400K DSDD diskettes
 - on quad-density drives:
 - reads, writes, and formats 730K and 800K on ordinary diskettes.

A-OK DOS-3/1.25 or **A-OK DOS-3/2.11** and Video Board \$55

A-OK DOS-4™

"The Standard Quad-Density DOS"

- All the features of **A-OK DOS-2**
- PLUS up to 4 quad drives—3.2 Megabytes of removable medium!
 - quad drives read all diskettes written by MS-DOS 1.25 and 2.11
 - quad drives read, write and format 160K, 180K, 200K, 320K, 360K, 400K, 730K, 800K formats on ordinary diskettes.
 - will not run Prolok™ disks.

We at A-OK Computers thank you for making **A-OK DOS-4™** the standard DOS for quad-density drives on the Sanyo. Thousands of copies of **DOS-4™** are now in use in the most demanding applications—yours. Potential bugs have been identified and corrected, making **DOS-4** a mature, well seasoned tool. Your constant feedback has resulted in the successive refinement of our documentation. After thorough testing and comparison to would-be competitors, Scottsdale Systems, America's No. 1 seller of Sanyos, selected **DOS-4** as the standard DOS supplied with their Silver Fox™. (**HAGEN-DOS™** is **A-OK DOS-4**). And of course, MidWest Micro Peripherals—one of America's largest sellers of computer equipment has selected **A-OK DOS-4** for their quad-based Sanyo. Because **DOS-4** is now the standard, our 720K and 800K formats are also regarded as the standard. Of the quad-density operating systems, only **A-OK DOS-4** supports the very popular **PrintScreen550**. *Soft Sector* sums it up well in their September 1984 review entitled "A-OK DOS and **PrintScreen550**—An Unbeatable Combination".

A-OK DOS-4 is the choice of OEMs. Don't trust your work to an experimental DOS, be sure your operating system is A-OK.

Look for these features in a quad-density drive DOS:

1. Still the only DOS which you can install with quad drives.
2. The system automatically recognizes 8/9/10 sector, 40 and 80 track formats without reconfiguration or using alternate drive symbols (e.g. E:, F:, etc.).
3. Free ramdisk—**TurboDrive550™**
4. Uses low-cost ordinary double-density diskettes.
5. **FORMATs**, **READs**, **WRITEs**, and **DISKCOPYs** all MS-DOS standard formats employed by the Sanyo 550 Series.
6. Uses the standard **DOS-4** 730K and 800K formats.
7. Built-in text screen to printer dump.
8. Supports the only graphics screen dump software built into the **DOS-PrintScreen550**.
9. Unique support for Lotus 1-2-3™ and Picasso™ on quad drives.

A-OK DOS-4/1.25 or **A-OK DOS/2.11** and Video Board \$55

PrintScreen550™

"Fast, High-Resolution Graphics and Text from Screen to Printer with One Keystroke"

- **PrintScreen550** now also supports the Video Graphics Board.
- **PrintScreen550** is designed for the everyday needs of most users.
- **PrintScreen550** capabilities
 - Prints a screenful of graphics to most popular printers.
 - This prints everything on the screen whether it's graphics or text.
 - User has the option to rotate the image on the paper. This permits Okidata 92s and other printers with less than 640 horizontal dot positions to print out the full screen.
 - Turns your Sanyo into a high-resolution graphics machine.
 - Multiscreen facility permits a printed image to be 640 dots by an almost unlimited number of dots in the perpendicular direction.
- **PrintScreen550** is flexible and easy to use.
 - Interactive mode
 - Works like the "Print Screen" button on the IBM-PC.
 - One keystroke does it all. No need to embed commands in BASIC. No extra programs to execute. Same single keystroke works in DOS, BASIC and all other software packages that run on the Sanyo.
 - Batch mode can be activated in BASIC by a one-line command.
- **PrintScreen550** is very fast and a lot of fun!

A-OK's PrintScreen550 software pulls the **Print Screen** button off the IBM-PC and puts it on your Sanyo MBC-550 Series computer.

PrintScreen550 is an option to any A-OK DOS for a meager \$24

Orders may be placed immediately.

Please send money order or cashiers check. Personal or company checks require 2-3 weeks to clear. Prices reflect a 3% cash discount. MasterCard/VISA/CHOICE accepted. MD residents add 5% sales tax. Out-of-state order, no tax. Prices subject to change. All brands are registered trademarks. 20% restocking fee for all returned merchandise.

A-OK Computers 816 Easley St., Suite 615 • Silver Spring, MD 20910 301-585-5105, 301-588-8446

© Copyright 1984, 1985 Apollo Optics & Kinematics, Inc.

REVIEWS



Book review

Sanyo MBC-550/555 Beginner & Intermediate Guide — An In-Depth Review

This is a review of a book that is designed to introduce beginners to the Sanyo MBC-550/555 series computers and to Sanyo BASIC. There is a coupon in the back of the book to order a disk of programs and utilities that go with the book. However, the book stands on its own and the disk is offered to enhance the book.

The book and the disk were received at the same time, but I ignored the disk until I had examined the book, since that is the way it would have been if the book had been bought first.

The book itself is an attractive seven- by nine-inch paperback with appropriate cover art. It is well designed and illustrated and easy on the eye. There is a complete table of contents and an index. There is a page before the table of contents that makes the offer of the program disk. Another page introduces the author, Fred Blechman, complete with picture. This page has the date 4/6/85 on it, which indicates the approximate date of the information in the book.

The book is in three parts: Part I is the introduction to the Sanyo MBC-550 computers and Sanyo BASIC, Part II describes the programs (all in BASIC, of course) and Part III is an appendix of useful information.

The tone of the book is conversational, friendly and witty. Mr. Blechman talks to you. He writes topics on his blackboard and expounds on them. Major subjects have the topic in bold type and a bold, black line for separation. Topics are short yet complete, with background, comment and detail. To start, the Sanyo MBC-550 is described with introduction, background, a note on IBM PC compatibility, a description of the front, sides and back of the computer, a look at the inside and a description of the keyboard — all in five easy pages.

Chapter 2 covers the keyboard in detail, and by the end of the chapter, we have typed in and run a little sinewave program. Notice, we have not run a program that says "hello" to us; we work instead with a program that produces an interesting display. The book is always leading us forward to more interesting things.

Chapter 3 takes on the display. There are little programs to illustrate points and there are illustrations where needed. Here too, Mr. Blechman makes a tutorial mixture of hardware and software exposition that makes one illustrate the other. For example, we have not gotten to the subject of BASIC yet, but by the end of the display chapter, we know about the PRINT USING command.

Chapter 4 is the start of the BASIC tutorial, entitled "The Basics of Sanyo BASIC." Again, a "nuts and bolts" exposition on how to get a program to load and run. Concepts are introduced when needed, and everything is illustrated with short programs. Sometimes new things are introduced in order to do a program. There is no formality here, and often concepts are used in programs before they are introduced. This has the effect of making them seem familiar when they are introduced.

The BASIC section goes as far as to introduce and list the disk I/O of Sanyo BASIC, but it does not go into any detail and there are only a couple of little examples of using disk files. As Mr. Blechman says, if you want to do disk operations you should get another book.

After the basic BASIC is done, next comes "Adding the

CHRYSON COMPUTER

SHIPPING CHARGES ARE \$3.00 PER ORDER, REGARDLESS OF WEIGHT OR PRODUCT SIZE. NO EXTRA CHARGE FOR MASTERCARD/VISA ORDERS

LIMITED QUANTITY SPECIALS VALID ONLY WHILE CURRENT SUPPLIES LAST	
MBC-775, Portable color computer	\$ CALL
VIDEO RAM BOARD (includes MS-DOS 2.11 and GW-BASIC plus manual)	\$ CALL
VOLKSMODEM, includes membership in THE SOURCE	\$ 59.95
CABLE A (for use with Volksmodem)	\$ 9.25
CDC DISKETTES, DOUBLE SIDED/DENSITY (12/box)	\$ 21.95
MAXELL DISKETTES, single sided	\$ 20.95
3M DISKETTES, DOUBLE SIDED/DENSITY	\$ 24.50
SENTINEL DISKETTES, DOUBLE SIDED/DENSITY (packaged in hard plastic box for easy storage, multi-color, LIFETIME GUARANTEE)	\$ 24.50
FLIP'N FILE 25, locking flip top disk storage container keeps disks flat while storing but when opened displays them in 5 groups	\$ 14.95
ACCESSORIES/MISCELLANEOUS	
KEYBOARD COVER, CLEAR HARD PLASTIC	\$ 9.95
COMPUERVE KIT, includes 5 hours connect time to COMPUERVE, user ID, manual binder-start telecommunicating!	\$ 28.95
DUAL JOYSTICK ADAPTER, Lets you connect two joysticks externally on your Sanyo	\$ 25.45
SOFTWARE PRODUCTS FOR BUSINESS — HOME — PLEASURE	
LOTUS 1-2-3	\$ 329.00
SUPERCALC III	\$ 239.30
SUPERCALC III, program to overlay for use with the	

Sanyo MBC550/555(2 drives are required)	\$ 20.00
(sold with SUPERCALC III only)	
dBASE II	\$ 339.39
Flight Simulator by Microsoft	\$ 42.42
PLEASE, by HAYES, THE powerful yet incredibly easy to use DATABASE program	\$ 239.95
U.S. DIGITAL PROGRAMS	
MERCHANDISER, by U.S. DIGITAL keeps your inventory, receiving records, sales records, mail lists, and prints reports as well as sales receipts, and MUCH MORE (used now by CHRYSON COMPUTER instead of many others available)	\$ 359.95
COPYLINK	\$ 72.95
CPEMULATOR	\$ 71.95
PREP, Personal Revenue Enhancer	\$ 49.95
MichTron PROGRAMS	
DS-DOS+ 2.11	\$ 42.45
CORNERMAN	\$ 33.95
MI-KEY	\$ 29.70
PRINTER HELPER	\$ 25.45
CASHMAN	\$ 29.70
PICASSO	\$ 84.95
DS-DOS+ 1.25	\$ 25.45
MI-TERM	\$ 67.95
M-DISK	\$ 29.70
SOFT SPOOL	\$ 29.70
TIME BANDIT	\$ 33.95
MIGHTY MAIL	\$ 67.95

(ALL OTHER TITLES AVAILABLE AT 15% OFF RETAIL)

TOTAL LEARNING SYSTEMS (Instructional programs)

TLS SANYO BONUS PACK	\$ 33.95
TLS- for MBC-775	\$ 42.95
TLS TUTOR SERIES, LOTUS 1-2-3, EasyWriter, SuperCalc, dBase II, Easy Planner/Filer, etc.	\$ 26.50
INFOCOM SOFTWARE	
ZORK I	\$ 29.95
ZORK III	\$ 32.32
SORCERER	\$ 34.95
SUSPECT	\$ 34.95
DEADLINE	\$ 38.95
CUTTHROATS	\$ 29.95
ZORK II	\$ 32.32
WITNESS	\$ 29.95
INFIDEL	\$ 34.95
ENCHANTER	\$ 29.95
STARCROSS	\$ 38.95
PLANETFALL	\$ 29.95

MISCELLANEOUS SOFTWARE

TEMPLATES FOR PLEASE	\$ 21.50
Template titles include: APPLICANTS, APPOINTMENTS, CASH FLOW, HOUSEHOLD RECORDS, INVENTORY, INVOICE, etc. (with each PLEASE software package there is a certificate for one free template of your choice)	
SOLUTIONS series for PFS	
FAMILY OF SOFTWARE	\$ 15.00
CHECKS, MAIL LIST, HOME INVENTORY, DISK LIBRARY	

(Hardware, Printer, Monitor prices include extra charges for weight and insurance)

CHRYSON COMPUTER

109 Lisa Drive

Brockton, Mass. 02402

(617) 587-4639

A-OK Computers

The A-OK Board™—The Ultimate Upgrade™ "960K + 8 MHz"

The **A-OK Board** lets you double your processor speed and nearly quadruple your RAM. The **A-OK Board** plugs inside your Sanyo with no soldering. The **A-OK Board** works fine with or without the Video Board and is fully compatible with all software which runs on your Sanyo. The **A-OK Board's** 8088-2 chip does all your processing, even Ramdisk, twice as fast. Plug one bank of 256K chips into The **A-OK Board** to double your RAM to 512K or two banks for 768K or a third bank for 960K of contiguous RAM. See our **TurboDrive550** ad about 800K ramdisks. Options include a real-time clock/calendar. Available probably by the time you read this. Call for A-OK's low price and to learn about the **A-OK Board's** other fine features.

A-OK Board with no memory \$150
8088-2 chip for high speed on **A-OK Board** \$ 25
A-OK Board with "the works" \$395

SANYGRAF

"Professional Business Graphics"

A-OK searched the world to bring you the best business graphics for your Sanyo. We are delighted by what we found—**SANYGRAF**. **SANYGRAF's** well thought-out menus and superb documentation, make this extremely versatile software very easy to master. **SANYGRAF** is very fast and even faster with an 8087. **SANYGRAF** supports popular plotters. **SANYGRAF** is so good that Sanyo Australia supplies it with every color graphics system it sells. 2.11, 256K, one DSDD or DSQD drive required.

SANYGRAF \$99

StarPolish™

"Makes Your WordStar® Shine!"

StarPolish upgrades WordStar to new useful capabilities.

"What you see is what you get."

- Enhanced Screen Attributes
 - Using "polished" WordStar, you actually see on your screen **boldfaced** and **underlined** text. Super^{scripts} are raised and smaller, sub^{scripts} are lowered and smaller. You can also see text *italicized*. Of course, you also see on your screen combinations of these features.
 - No more ^B or ^S to complicate your work.
 - No more fouled up output because of unmatched control codes.
- Expanded Printer Support

Technical Symbol Support and Keyboard Map.

Now you can use scientific and engineering symbols in your WordStar documents and print them out on your dot matrix printer. This level has an on-screen map of the keyboard to show you what key produces what symbol. Polished WordStar is completely compatible with unpolished WordStar, MailMerge®, and SpellStar®.

StarPolish is a trademark of TDI Systems, Inc. A-OK is the sole rep. for the Sanyo versions.

StarPolish Sanyo MBC 55x version \$125
Call A-OK about availability.

StarPolish Sanyo Video Board version \$125

LotuSan550™

"Lotus Without the Video Board"

LotuSan550 lets you run Lotus 1-2-3™ on your Sanyo without the hassle and expense of the Video Board.

- LotuSan550** is easy to use.
 - Use Lotus as installed for IBM PC
 - Full use of Lotus' fine features
 - Uses Sanyo's 640 × 200 high-res graphics.
- Because you don't need the board you save over \$100 and you can run Lotus and have a hard disk
- LotuSan550** is for Lotus and only Lotus
 - LotuSan550** will not help you run the pfs series, Flight Simulator, etc.
 - But, if it's Lotus you want, we believe you'll prefer **LotuSan550**.

LotuSan550 \$55

Janus/Ada

"The Ada for Micros"

Now you can use the language of the future on your Sanyo, IBM, Zenith, etc. For just \$99, you get the **Janus/Ada** Compiler, Linker, Libraries, Example Programs, User Manual, and User Group Membership! Great for learning Ada and for serious programming.

Janus/Ada C-Pak \$99

N-Code™

"If You are Serious about Data Security"

N-Code for the Sanyo MBC-550 Series or IBM PC \$79

Microsoft FORTRAN 77 (limited supply) \$219

A-OK Computers 816 Easley St., Suite 615 • Silver Spring, MD 20910 301-585-5105, 301-588-8446

TurboDrive550™

"A Quality Ram Disk for Sanyo"

TurboDrive550 turns your unused RAM into a disk drive.

TurboDrive550 is very fast.

- Speeds up all disk intensive software.
- Makes WordStar and FORMSORT run more quickly.
- Accesses disk 75,000 times faster than hard disk.
- Makes 800K ramdisks on the **A-OK Board**.
- Using the new **A-OK DOS-3** with your single or double-sided drives.
- Using the new **A-OK DOS-4** with your quad drives.

TurboDrive550 is a low-cost alternative to a second disk drive.

Compare **TurboDrive550's** features to the competition.

- TurboDrive550** works even if you only have 128K.
- TurboDrive550** protects you from allocating more space than is available.
- A-OK** provides a COM file in MS-DOS 1.25 which lets you gracefully free **TurboDrive550's** space.
- TurboDrive550** lets you use its menu or parameters.

TurboDrive 550 is The Phantom Buster.

TurboDrive550 comes **FREE** with every new **A-OK DOS 1-4™** and is available as a \$7 upgrade to current **A-OK DOS** owners.

TurboDrive550 for other Sanyo DOSs \$33
(The best deal is to buy **A-OK DOS-1™** for \$35 and get **TurboDrive550** free.)

Contact!

"Mailing Lists and More"

Contact! makes it incredibly easy for you to create and maintain business and personal mailing lists. **Contact!** prints mailing labels in the order you want and creates files ready for MailMerge. **Contact!** even prints out your address book complete with phone numbers. Requires 2.11 or Video Board.

Contact! \$35

"AMBIZ-PAK"™

Fifteen programs for Amway Product Distributors \$100

UPGRADE TO 800K PER DRIVE

Increase your disk capacity to 800K per drive using A-OK's **DSQD Kit™** which includes: 2 first quality new TEAC 55F double-sided quad-density (DSQD) drives which replace the TEACs in your Sanyo, **A-OK DOS-4**, complete easy instructions, and all parts needed.

DSQD Kit \$399

DSDD Kit™

Upgrade to 400K per drive—same as DSQD Kit but with 2 TEAC 54B drives and **A-OK DOS-2**.

DSDD Kit \$359

VidSwitch550™

Just push a button on the left front side of your Sanyo and you've switched from the Sanyo graphics port to the Video Board port. Another push of the button on this small box switches it back. The monochrome version requires only the mono cable you already have. The color version requires no extra cables. Everything just plugs in.

VidSwitch550—Monochrome \$29

VidSwitch550—Color (no sync inversion) \$69

XCord550™

"Extension Cord for your Sanyo PC Keyboard"

XCord550 6 foot \$15

XCord550 12 foot \$25

RS232C Serial Boards \$72

128K Memory Upgrade Kit 150ns chips \$49

THE A-OK TEAM

Join the team that created the **A-OK DOS Family**—the choice of OEMs, **PrintScreen550**, **TurboDrive550**, **The A-OK Board** and other top-quality software and hardware. We sell only the best. Fewer titles, better promotion. Give us a call. Join the **A-OK Team**.

SEE OUR OTHER FULL-PAGE AD FOR ORDERING INSTRUCTIONS.

DEALER, DISTRIBUTOR, AND OEM INQUIRIES INVITED

New Shipping System

You have made our products so popular that we've been swamped with orders in response, we recently beefed up our shipping department so that any order, large or small, will be swiftly shipped. Our goal is that every order will be shipped within 24 hours. We at A-OK thank you for supporting our products.

Frills." Fun time. Color and graphics. Mr. Blechman suggests setting the DIP switch on the main circuit board (Page 5-40 of the *Sanyo Operator's Guide*) to the color positions (on-off-off-off) instead of the factory positions. I did this, and I like it better that way. Nowhere else in the Sanyo literature that comes with the machine is the function of those switches explained. There is good stuff like this scattered throughout the book.

Chapter 10 is about the differences between Sanyo BASIC and others, particularly IBM PC BASICA. It also discusses the various ways to get other BASIC programs into your Sanyo.

A short discussion of MS-DOS is given in Chapter 11. Mr. Blechman was weaned on a TRS-80 Model I with cassette and he dismisses the operating system as being a necessary evil that you have to pass through to get to BASIC. But he does his duty and discusses it with his usual thoroughness and style.

Something that is not usually included in a beginner's book is telecommunications. Here there is a complete primer which also includes direct communication from one computer to another. Mention is made here of a couple of commercial communications programs for the Sanyo. This is the precursor of a couple of chapters of hardware and software reviews.

The reviews are interesting and there is much useful data about pinouts and connections, but this section will rapidly get out of date.

With the reviews, Part I of the book is finished. The introduction to the Sanyo MBC-550 and to Sanyo BASIC is excellent. Even the most difficult parts are easily readable. Mr. Blechman enjoys his computers and it shows in his writing.

We are three-quarters of the way through the book when Part II starts. Part II is essentially the documentation of the main programs on the disk. Mr. Blechman has divided this into three sections: programs for home and personal use, hobby programs, and business and professional programs. All of the programs are small. Each does one function and is fully explained so the user can expand it as needed. The programs are those that interest Mr. Blechman. Wisely, he does not write about things he does not know well.

The two bigger programs here consist of a line-oriented text editor (the only real example of disk file use in the book) and an invoice writing program. The documentation of all the programs is complete.

Part III of the book consists of four appendices, a

summary of the advantages of MS-DOS 2.11, a list of Sanyo books, a list of software, lists of information sources, clubs and hardware and software sources, and a list of the files on the program disk with an order form.

Any book on microcomputers is chasing a moving target. It takes almost as long to produce a book as it does to produce a new computer. This may be a comment on book publishing. At the same time, there is a vacuum that must be filled, since the literature provided with personal computers is almost always lacking in some way. Mr. Blechman does a service by providing these friendly introductions to personal computers.

The Disk

You can buy the book and type in the programs. This will give you typing exercise and a lot of practice in debugging, but it will not help you learn programming, since all your attention is occupied with typing. If you buy the disk, you are saving time and spending money. The choice must depend on which you have more of.

The program disk is accompanied by a single sheet of paper that tells how to load it and use it, and a sheet listing the files on the disk. Actually, that is all it needs since you are presumed to have the book.

There are a lot of programs on this disk and many are little five-liners to illustrate a point in the book, so all I can do is try to give you the flavor of them. Every program that is listed in the book is here. The programs are neat, no-frill examples. Detail is taken care of. There are no surprises and no syntax errors. The examples used produce interesting and pleasing displays although they are all rather elementary and simple programs. The book and the disk should work well together.

In addition to the book examples, there are some utility programs included, tossed in to make the basket full. All of these utility programs are in the public domain now. There is a memory test program, a single-disk copy program, a couple of screen dump programs and a program to set up the serial port. Most of these have documentation on the disk, since there is none in the book for them.

The disk is not necessary for using the book, but if you want to spend the additional \$25, it will add to the enjoyment and save you some time.

(Blechman Enterprises, 7217 Bernadine Ave., Canoga Park, CA 91307, 818-346-7024, book \$17.45, disk \$25 if purchased separately, \$20 if purchased with book)

— Harold L. Reed

10 MEG EXTERNAL HARD DISK \$1,099

MISSOURI RESIDENTS ADD 5.625% SALES TAX. FOR SANYO 550/555 SERIES COMPUTER ONLY. SIX MONTH LIMITED WARRANTY.

Add \$199 for integral video board.

SYSTEM COMPLETE WITH HOST ADAPTER AND PATCHES TO 2.11 DOS. READY TO RUN, 10 MINUTE INSTALLATION.



THE LEMBERGER CO.

100 N. MAIN ST., VIENNA, MISSOURI

65582

65582
SERVING MICROCOMPUTER USERS SINCE 1978 PHONE (314) 422-3353

RUN LOTUS 1-2-3™ ON SANYO 550/555 FOR ONLY \$40.

SOFTWARE ANSWER #2B is a program that allows LOTUS 1-2-3 version 1A to run with all features on a SANYO 550/555 with 256K memory.

- HIGH RESOLUTION GRAPHICS
- SOUND WORKS (to indicate errors)
- EASY SWITCH TO AND FROM OTHER PCs
- ONLY USES 5K MEMORY
- RUNS 1-2-3 FROM HARD DISK
- NO VIDEO BOARD REQUIRED

SOFTWARE ANSWERS, INC. 2888 BLUFF ST. #460
BOULDER, CO 80301 (303) 441-9290

™ Lotus Development Corp.

Word Wiggle — A Scrambled Word Game To Scramble Your Brain

Word Wiggle is one of those games that will hook you quickly — the kind that keeps you from working. Many word games lack the ability to draw me back a second time, but this one wouldn't let me stop playing!

Word Wiggle is very similar to a game called Boggle which many of you may have played before. *Word Wiggle* has very few rules and is easy to learn. To play, select the size board you want to play on and the level (one through 10). The computer randomly puts letters in the blocks of the board and starts a countdown timer. (You can also set the amount of time.) You must then look for words which are at least three letters long on a three-by-three-inch board and four letters on a four-by-four-inch board in the scrambled letters which appear. The letters in the words must connect in some way — either horizontally, vertically or diagonally. This should be rather easy, right? Well, the computer is looking for words at the same time you are and it draws on a large dictionary that resides in the program.

I thought that Level 5 would be a good place to start so I played a game. At first the computer beat me, 80 to 40. After awhile, I started to see that I was missing a lot of words. Anytime I saw an "s" or "ed," I started looking for ways to put them on words I had already found. The scoring system works on length — the longer the word, the bigger the point value. If you can find eight-, nine- or 10-letter words, they are worth a lot.

Soon I was able to beat the computer on Level 5 everytime. So, I thought, why not try Level 10 and see what happens? I have met people I call "walking dictionaries" because they can spell anything. However, this game on Level 10 might even stump them! On a four-by-four-inch board, the computer found some 11 letter words! The score was 256 to 32 — in favor of the computer, of course. No matter how hard I've tried, I've never been able to beat the computer on Level 10; not even when I had four other people around to help. Oh well, my vocabulary mainly consists of BASIC, MS-DOS and other computer commands, and *Word Wiggle* wouldn't let me use them.

One more thing: There is a way to cheat the computer. If you type in a word that the computer doesn't know, it will ask you if that word is in your dictionary. If you say "yes," it gives you credit for that word. This can work both ways, however. If you see a word that you're not sure about on the computer's list, you can look it up in your dictionary (and you had better, because I found several it tried to slip by me that were not in my dictionary). They may have been real words, though, since I only used a 50,000 word dictionary.

All in all, this is a well-designed game and it plays very smoothly. The documentation is extremely clear. I found myself playing it right up until the deadline for this review.

It does not use fancy graphics, but it does use the graphics characters very well. The reason for the lack of graphics is due to the diversity of computers it will run on (MS-DOS, PC-DOS, CP/M and others). I would recommend this to anyone, and especially to those who like word search and crossword-type puzzles. This game will keep you at the keyboard for hours.

(The Software Toolworks, 15233 Ventura Blvd., Suite 1118, Sherman Oaks, CA 91403, 818-986-4885, \$29.95)

— Geff Purcell

MODEM SOFTWARE, RS232, AND WESTERN UNION EASY LINK TERM-123 BY TIM PURVES SUPPORTS DFT, SDT, ASCII, UP AND DOWNLOADING, ALL IN MACHINE LANGUAGE AND IS FULLY INTERRUPT DRIVEN. A SUPER \$240.00 VALUE, NOW ONLY \$99.

HAVE YOU EXPANDED YOUR SANYO? ADDED MEMORY? DOUBLE SIDE DRIVES? LOTUS BOARD? IF THE ANSWER TO ANY OF THESE IS YES THEN YOU HAVE A POWER PROBLEM, WE CAN FIX IT!!! POWER SUPPLY UP-GRADE KIT AND INSTRUCTIONS \$29.95

FLOPPY DRIVES (160k-360k-800k) INTERNAL OR EXTERNAL \$CALL\$

CBBS-PBBS COMMERCIAL OR PERSONAL BULLETIN BOARD SYSTEMS BY TIM PURVES. THIS ONE DOES IT ALL, EASY TO CONFIGURE, EASY TO USE. IT MAKES YOUR COMPUTER A 24 HOUR PER DAY SALESPERSON \$99.95 OR \$59.95

SYNC INVERTER, USE A PANASONIC OR OTHER NEGATIVE SYNC RGB MONITOR WITH THE LOTUS BOARD, IT ALSO PERFORMS THE CABLE ADAPTATION YOU NEED. \$39.95

HARD DRIVES (5 MEG - 10 MEG) INTERNAL OR EXTERNAL \$CALL\$

POWERLINE FILTERS, PROTECTS YOUR VALUABLE INVESTMENT FROM DAMAGING "SPIKES" ON YOUR A/C POWER CIRCUIT. SIX OUTLETS, 15AMP, M.O.V. TECHNOLOGY. (3) MODELS \$39-\$49-\$59

** BRAND NEW ** UNLOCKIT, A PROGRAMMER'S UTILITY BY TIM PURVES, UNLOCKS AND REMOVES THE PROTECTION ON A PROGRAM SAVED WITH THE "Q" OPTION IN SANYO BASIC \$29.95.

MEMORY UP-GRADE KITS WITH FULL INSTRUCTIONS TAKE YOUR SANYO ALL THE WAY TO 512k OR ADD 64k BANKS AS YOU NEED THEM. SOLDERING SKILLS REQUIRED. \$CALL\$ FOR QUOTATIONS

KEYBOARD EXTENDER CABLE ADDS SIX FEET OF REACH \$12.95

** NEW ** LEVEL IV's SANYO CATALOG, SOFTWARE, HARDWARE, ACCESSORIES, UP-GRADES AND MORE. PURCHASE PRICE IS REFUNDABLE BY COUPON ON YOUR FIRST ORDER. ONLY \$3.00

** NOTICE ** PRICES CHANGE FASTER THAN OUR ADS CAN, USUALLY DOWN! CHECK OUR DAILY DISCOUNT PRICES WHEN ORDERING ANY ITEM. WE PRICE ALL OF OUR PRODUCTS ON A COST PLUS BASIS!

** DEALER AND GROUP PURCHASE DISCOUNTS ARE AVAILABLE **

LEVEL IV PRODUCTS, INC.
28194 SCHOOLCRAFT ROAD
LIVONIA, MICHIGAN 48150
(313) 525-6200

FACTORY AUTHORIZED SANYO SALES/SERVICE CENTER

DEALER INQUIRIES INVITED

VISA/MASTER CARD/CHECKS/C.O.D.

SHIPPING/HANDLING/INSURANCE 2% (\$3 MINIMUM)

Speed Screen — A Program To Speed Your Sanyo Display

How many times have you said, "Boy my Sanyo is slow"? Well, part of the reason that your Sanyo is slow is because of the screen. The Sanyo computer has not one, not two, but three screens that are used to display information. Most of the time all you see is the green screen, but there is a red and blue screen too. Each of the screens take up 16K of memory, using a total of 48K just for screen display. Every time the screen scrolls one line, all three screens must be scrolled. This is why the Sanyo computer takes a while to scroll.

There is now a program called *Speed Screen* that can help with the slow screen. *Speed Screen* uses only the green screen on your Sanyo. The makers of *Speed Screen* have found a way to block out the other two screens; this in turn, makes the Sanyo faster.

Speed Screen can be put on any disk you want, allowing it to be placed on all of your disks and loaded in when you boot your system. If loaded when the disk is booted, from then on there is nothing else for you to do. If for some reason *Speed Screen* does not work with a program you have — for instance, a color game or something with color — you can turn it off with a simple command.

I tried the program with *WordStar* and it was nice to see it move faster. If you have a program that only uses the green screen and would like to speed its operation, then *Speed Screen* should do the trick.

The makers of *Speed Screen* put another small program with this package. It is called *SetBell*. *SetBell* does just what it says it does — it sets your Sanyo's bell. For those of you who don't like the "goose" sound that your Sanyo makes, this lets you set the tone, duration and volume of your Sanyo's beep.

(Michigan Software, 43345 Grand River, Novi, MI 48050,
313-348-4477, \$24.95, requires DOS 2.11)

— Pat Brestel

128K MEMORY 29.95!

362k drive	\$ 119	1200/300B modem	\$ 279
810K drive	129	300 baud modem	\$ 75
DS-DOS+ 2.11	39	(modem comes w/software)	
6' keyboard cable	17	joystick port xtender	17

New Software: **BIBLIOGRAPHER** \$ 49.95 only

Maintains bibliography in different styles for research papers and books. No more hand-sorting or retyping. Powerful and easy to use; compatible with most word-processors.

KYNTEK MARKETING

P.O.Box 13070, Minneapolis, MN 55414; phone: 612-379-1020

Visa, MC add 3%. Personal/company check allow 10-15 days to clear. No C.O.D. In MN add 6% tax. Add 3% for shipping, \$ 3.00 minimum.

SEND \$49.95 FOR THE LATEST LIST OF IBM SOFTWARE THAT RUN ON SANYO-- FREE (a \$ 4 value).

TLS-Plus PC — An Excellent Tutorial For The MBC-775

If you have an MBC-775 or are thinking of getting one, here is some good news. A new version of *TLS* is now available. *TLS* from Total Learning Systems is the best on-screen tutorial I have seen for MS-DOS. The new version, *TLS-Plus PC*, makes use of color and sound. It also covers use of the fixed disk. The screen graphics depict an IBM, but don't let that worry you — the operations of the 775 are identical.

TLS starts from scratch if you wish or, if you already have some knowledge of computers in general, it will start at a little higher level. I suggest starting at the beginning even if you do have some prior experience. It takes you gently by the hand and leads you through the keyboard, the proper handling of disks, formatting, copying, verifying and lots more. About 45 minutes into the tutorial I began to marvel at the amount of information stored on one floppy diskette. I was going through it pretty fast, too.

TLS is a compiled BASIC program and the graphics are amazingly quick. The resolution is good too, especially when one considers that the software is very much plain vanilla. I tried it on a Columbia, a Corona, a Zenith, an IBM, a Compaq and a Sanyo MBC-555 with a Video RAM Board. It ran on all but the 555 without a hitch. The Zenith had a color monitor and the color is very good. There is a version for the 555, so if that's what you're using, you can still get *TLS* for your machine. (See the review in the January, 1985 issue of *SOFT SECTOR*.)

I found that children learn MS-DOS much more effectively from *TLS* than from parents. They can work at their own pace without someone yelling, "No, don't do that! You'll ruin the disk!"

Which leads us to another good point: You can't hurt a thing. When you make a mistake, *TLS* tells you about it. It doesn't just wipe out your hard disk or reformat the default floppy. When you've had enough for one sitting, just tell it and it will start right where you left off the next time you use it.

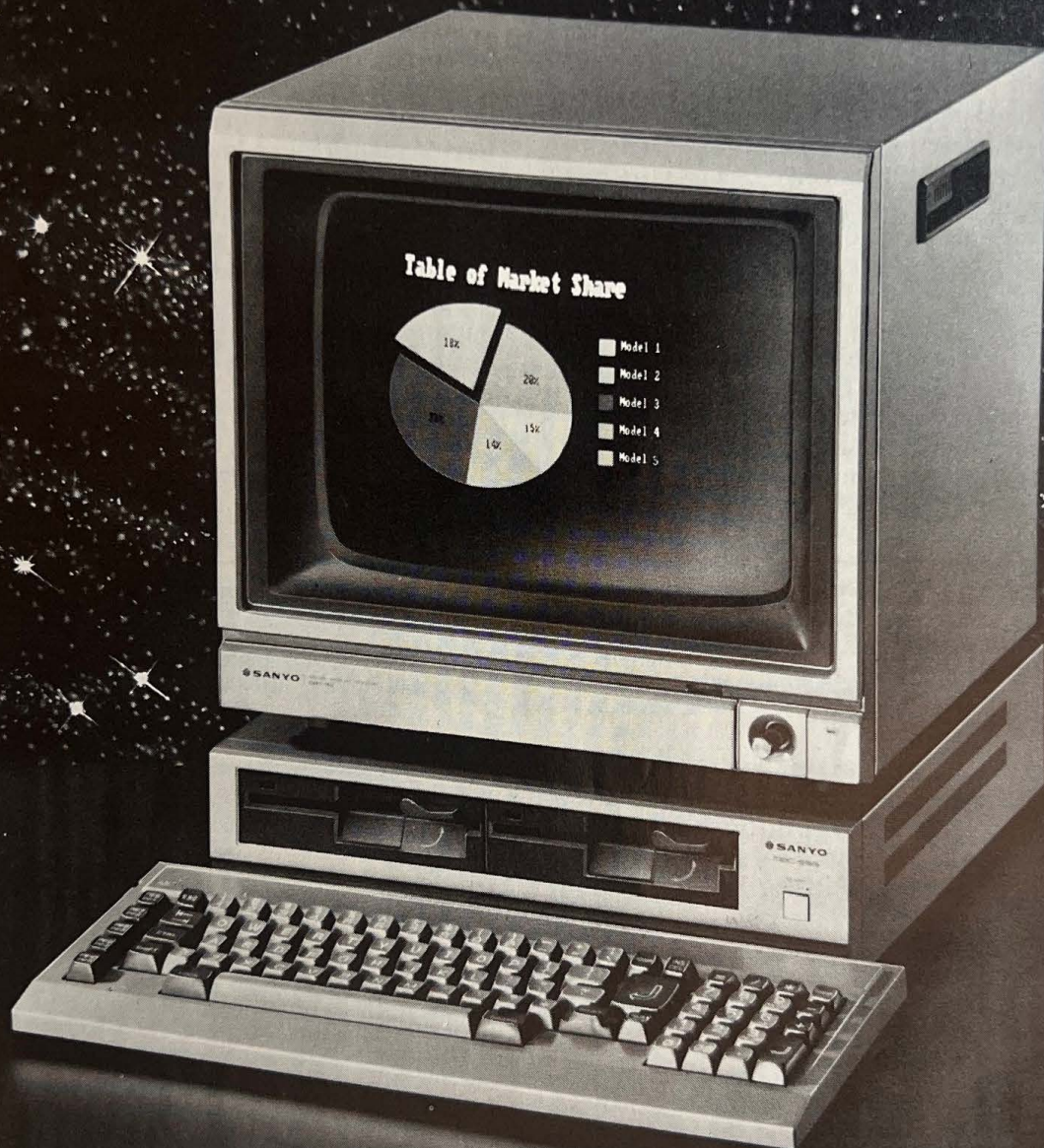
The *TLS-Plus PC* includes a tutorial cassette tape for *EasyWriter II*. The tape is excellent. You can load *EasyWriter*, turn on the tape, and learn faster than you will if you read the manual for a while and then type for a while. I also listened to cassettes on *InfoStar* and *CalcStar*. They, too, are excellent and are available from *TLS* at reasonable prices.

I strongly recommend *TLS-Plus PC* for use with your Sanyo MBC-775 or any other IBM compatible. And remember, there is a version for the 550 series as well.

(Total Learning Systems, Inc., 3451 N.W. 55th Street, Ft. Lauderdale, FL 33309, 305-485-6882, \$49.95)

— Jim Pile

NOW. SANYO POWER.



The MBC 550 Series

Monitor Optional

The MBC 550 Series are high performance, MS-DOS, 16 bit personal computers with color graphics and up to 256K RAM expandability. Available with either 160K or 360K drive(s).

All models come with MS-DOS, Basic, WordStar®, CalcStar®, EasyWriter I™. Dual drive models come with additional IUS or MicroPro® bundled software. And, the powerful operating system allows you to run many of the IBM PC business software programs. All for a price that can't be beat.

If your needs are for word processing, accounting, spreadsheets, data base management, advanced integrated programs, or home and educational applications, experience the power of the Sanyo MBC 550 series now.



SANYO

COMPUTER DIVISION

SANYO BUSINESS SYSTEMS CORP.

51 Joseph Street, Moonachie, N.J. 07074

YOU'LL FIND OUR NAME EVERYWHERE.

SeekEasy — An Information Filing And Retrieval Program

Some things are not what they seem. When applied to computers, this drives home the fact that most software must be seen to really be believed. Buying a piece of software on faith should be avoided, if possible, because you never really know what you'll end up with. Take, for instance, a program I thought was just another database manager.

The crossing of a database with a filing utility yields *SeekEasy*, a new and interesting product from Correlation Systems. While it is not exactly a formal database (*dBASE* or *EasyFiler*, for example), it has an excellent "notepad" similar in function to that found in *Sidekick*. The most intriguing thing, next to its unusual licensing plan, is its ability to search and retrieve data from non-*SeekEasy* files. For instance, you can go into a *WordStar* file and find all the occurrences of a word. Other programs' data files can be searched, too, including *EasyFiler*, *EasyWriter I, II* and yes, even *CalcStar* to a certain extent.

SeekEasy uses a two-line format for its "database." This departs from the field-oriented format of other databases. Once your data is entered, you can search for a particular string, edit your entries, check file space, pack a file for

space efficiency, or erase a file. You can also list every record in the file. While *SeekEasy* allows you to go back and edit *SeekEasy*-generated files after their creation, non-*SeekEasy* files can only be read from. One could make quite a mess editing a strange file, and the program's authors wisely prevent this from happening.

As storage requirements for database files increase, so will this program. Whether you have floppy, RAM, or hard disks, *SeekEasy* can be a quick, painless way of getting that one piece of data out of a file without having to wrestle with a myriad of menus.

As noted earlier, Correlation Systems has a rather unusual licensing program. You are given a demo disk along with the "real" disk and manual. You can make copies of the demo disk and you are encouraged to do so. Further, the license for the "real" disk is a site license, meaning you as an entity can make all the copies you want without fear of that dreaded knock on the door from Correlation Systems. The same goes for the manual. Just don't confuse the real and demo disks in your distribution efforts. Business users, of course, have some restrictions and these are listed in the documentation.

I found the *SeekEasy* notepad and database to be tedious but somewhat appealing for simple applications. The search section is a nice touch and very useful for non-*SeekEasy* applications.

(Correlation Systems, 81 Rockinghorse Road, Rancho Palos Verdes, CA 90274, 213-833-3462, \$87)

— George M. Smart, Jr.

From the best resource for your Sanyo computer comes the best software deal on the market!

Each and every month of the year, SOFT SECTOR offers an assortment of programs for the home and office — utilities, business applications, games and more — all for the price of typing in the listings. But for the person on the move, that's a high price to pay.

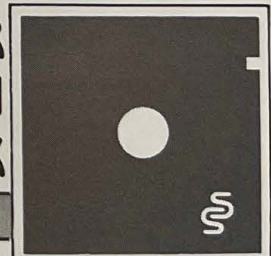
Ask yourself how much your labor is worth. Five dollars an hour? Ten? Even 20? Now ask yourself how many hours it takes to type in and debug just one of those wonderful (but long) programs from SOFT SECTOR. Think of it: Every program from the pages of SOFT SECTOR, ready to load and run with only a few keystrokes!

BACK ISSUES AVAILABLE

Several of the first issues of SOFT SECTOR are now out of stock, but the programs from those issues are available as back orders of SOFT SECTOR ON DISK, along with the accompanying text files of the articles ready to be routed to your screen or printer with a simple TYPE command. This may be your only chance to get the programs that you've missed.

For those who value their time, we offer

SOFT SECTOR
ON
DISK



Volume I contains programs from August, September and October 1984. Volume II contains programs from November and December 1984 and January 1985. All other copies of SOFT SECTOR ON DISK include programs from individual issues of SOFT SECTOR.

Now is your chance to make your Sanyo a full-time computer instead of a typewriter. Subscribe to SOFT SECTOR ON DISK today and give those weary fingers a break!

SOFT SECTOR ON DISK subscription rate is: within the U.S., \$99; Canadian rate, U.S. \$115; all other countries, U.S. \$130. SOFT SECTOR ON DISK single volume rate is: within the U.S., \$12; Canadian rate, U.S. \$14; all other countries, U.S. \$16. Subscription orders begin with the current issue, allowing 5-6 weeks for first delivery.

Protect Your Valuable Magazine Collection With . . .

DISTINCTIVE AND DURABLE SOFT SECTOR BINDERS

Every single issue of **SOFT SECTOR** is a vital resource that you will refer to again and again for new insights, to explore new areas of interest or simply to refresh your memory. So, you need to keep your copies of **SOFT SECTOR** safe in high-quality, vinyl binders that provide complete protection.

These handsome royal blue and gold embossed binders, which protect your valuable issues of **SOFT SECTOR**, are only \$7.50 (please add \$2.50 for shipping and handling each binder).

SAVE! Buy four or more back issues of **SOFT SECTOR** with this order and save \$1 per issue. Use the Back Issue Order Form on Page 67.

Mail to: **Soft Sector Binders**
The Falsoft Building
Prospect, KY 40059



☐ YES. Please send me _____ binder(s) at \$7.50 each (plus \$2.50 for shipping and handling each binder). If your order is to be sent via U.S. Mail to a post office box or to another country, please add \$2. Kentucky residents add 5% sales tax.

Name _____

Address _____

City _____ State _____ ZIP _____

☐ My check in the amount of _____ is enclosed. (In order to hold down costs, we do not bill.)

Charge to: ☐ VISA ☐ MasterCard ☐ American Express

Account Number _____ Exp. Date _____

Signature _____

SUBMITTING MATERIAL

Contributions to **SOFT SECTOR** are welcome from everyone. We like to run a variety of programs which will be useful/helpful/fun for other Sanyo owners.

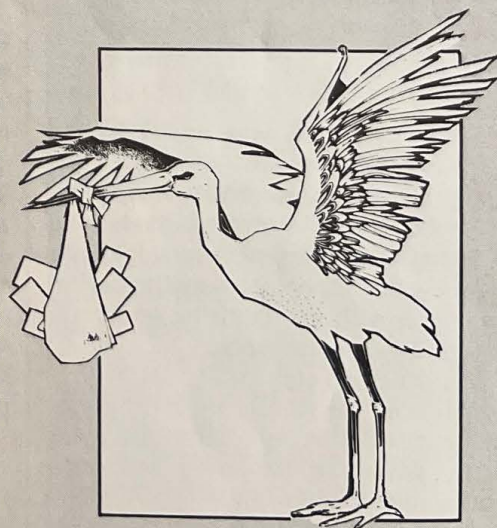
• **FORMAT:** Unless the program accompanying your submission is less than 10 lines, we must have the program itself on disk. We will print out the listing to our specifications. We simply cannot take the time to key in (and debug our typing errors) material which is longer than that. Editorial copy can also be included on disk, using any of the word processors currently available for the Sanyo 550, 555 or 775. However, please also include a double-spaced hard copy of your editorial material and hard copy of your program listing. Please do not send text in all capitals. Use upper- and lowercase. While it is a big help to us in typesetting for you to send your article saved on disk using the ASCII option, it is not mandatory. But we must have, at the very least, a double-spaced hard copy of the article.

• **WHAT TO WRITE:** Anything with a practical application. If it interests you, it will probably interest a lot of others. However, we vastly prefer articles with accompanying programs which can be entered and run. The more unique the idea, the more appeal. We can prepare finished tables, diagrams and schematics from your rough draft if you provide legible copy and full directions. We have a continuing need for short articles with short listings.

We do pay for submissions, based on a number of criteria. Those wishing remuneration should *so state* when making submissions.

For the benefit of those who wish more detailed information on making submissions, please send an SASE to: Submissions Editor, **SOFT SECTOR**, P.O. Box 385, Prospect, KY 40059. We will send you some more comprehensive guidelines.

Please do not submit programs or articles currently submitted to another publication.



SOFT TALK

XTREE is a file and directory maintenance program which provides commands to access, delete, rename, view, move, list or show any and all files within any and all directories on your floppy and hard disks.

XTREE presents a visualization of the directories, subdirectories and files on your disks in clear, graphic displays. Statistical data is also displayed at all times. This data is updated as you perform your tasks.

XTREE requires 256K and MS-DOS 2.11. It is currently available for \$49.95 from Executive Systems, Inc., 15300 Ventura Blvd., Suite 305, Sherman Oaks, CA 91403; (818) 990-3457.

* * *

FORMULA/ONE is a high-powered problem-solving software package designed for engineers, scientists, students, business professionals and other personal computer users. It allows them to calculate complex mathematical equations without requiring computer programming experience.

It is designed specifically for professionals who previously used programmable calculators or customized computer software to solve common mathematical problems.

Formula/One features "context sensitive" HELP and DOS-like commands so users can automatically set up problems, vary assumptions, solve equations, plot graphs and compute unknown variables in complex formulae

and models. It also provides a full set of system defined statistics, calculus functions and capabilities for performing multiple linear regression analysis. **Formula/One's** report generator also allows users to produce high-quality customized displays, reports and graphs without an intermediate word processing step.

Formula/One requires 192K and is currently available for \$395 from Alloy Computer Products, Inc., 100 Pennsylvania Ave., Framingham, MA 01701; (617) 875-6100.

* * *

ON THE MARKET are two programs from Generic Computer Products, Inc.

Loan-Master is a loan analysis program which allows you to process almost any type of fixed-rate loan including zero-interest loans and balloon payments. You can select either periodic or annual amortization schedules. The annual schedule lists the total interest paid for each year during the loan. A loan summary report is provided which lists all the input and calculated parameters for the loan.

Investment-Master provides you with investment summaries for lump sum and annuities. You can obtain results for both deposit or withdrawal type annuities and a screen format is used to allow for easy data entry. Your input is checked for validity in order to minimize errors during investment calculations.

Both **Loan-Master** and **Investment-Master** are currently available for \$49.95 from Generic Computer Products, Inc., P.O. Box 790, Marquette, MI 49855; (906) 249-9801.

* * *

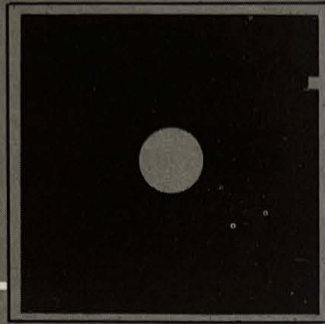
TURBO TOOLKIT is an extensive graphics library for use with Turbo PASCAL which allows you to program in PASCAL and make the most of your Sanyo's graphics capabilities.

Turbo Toolkit is currently available for \$39.95 from Migraph Software, 31849 Pac. Hwy. S. (141), Federal Way, WA 98003; (206) 839-6811.

* * *

A USER'S HANDBOOK is now available for the Sanyo MBC-550/555 from Weber Systems, Inc. The **Sanyo MBC User's Handbook** is a concise, practical operating guide for the busy professional or manager who wishes to quickly learn how to apply the Sanyo to his everyday activities without wading through the thick users' manuals provided with the computer.

This book guides the reader through installation, start-up, DOS, **WordStar**, **SpellStar**, **MailMerge**, **InfoStar** and **CalcStar** usage. Examples of using the Sanyo to solve everyday problems are provided throughout the text. Information on Sanyo BASIC is also included. Programmers will find this book's narrative on the differences between Sanyo BASIC and Microsoft BASIC useful.



The *Sanyo MBC User's Handbook* is currently available for \$17.95 from Weber Systems, Inc., 8437 Mayfield Road, Chesterland, OH 44026; (216) 729-2858.



SEARCH AND DESTROY the evil in *Black Sanctum*, a Hi-Res Adventure game. You will encounter the forces of black magic as you roam through an 18th century monastery. To be successful on your journey through this adventure, you must maintain a constant curiosity with a careful eye to detail.

This program has a sizable vocabulary of verbs and nouns so you can be creative in your choice of instructions. To win the game in a minimum number of moves, be logical and try to think of all options. To speed play, the

program understands a number of command abbreviations.

Black Sanctum requires a Video RAM Board and 256K. It is currently available for \$29.95 from Michigan Software, 43345 Grand River, Novi, MI 48050; (313) 348-4477.

* * *

THE PRINTED PAGE. The *Minute Manual For The Dot Matrix Printer* is a non-programmer's guide to buying, using and understanding the dot matrix printer. This book is applicable to all dot matrix printers, but features the Epson, Okidata, Prowriter, NEC, Gemini and Apple printers.

Each aspect of the dot matrix printer is explained. If you are buying your first printer you will be able to judge and evaluate printers based on the information found in this guide. If you already have a dot matrix printer, this guide will help you understand and utilize your printer to its maximum potential.

The *Minute Manual For The Dot Matrix Printer* is currently available for \$12.95 plus \$2 S/H from MinuteWare, P.O. Box 2392, Columbia, MD 21045; (301) 995-1166.

* * *

TYPE RIGHT is a program designed to introduce you to your Sanyo's keyboard and improve your overall typing skills. This educational program features a structured guide to touch-typing in a way that helps ease computer

soft sector



Back Issue Availability

Back copies of many issues of **SOFT SECTOR** are still available.

All back issues sell for the single issue cover price. In addition, there is a \$2 charge for the first issue plus 50 cents for each additional issue mailed in the U.S. When possible, issues are mailed U.P.S. The postage cost in Canada and Mexico is \$3 for the first issue and \$1 for each additional issue.

VISA, MasterCard and American Express accepted. Kentucky residents please add five percent state sales tax. We do not bill and no C.O.D. orders accepted.

We suggest you order back issues you want now while supplies last.

To order, just fill out the form on the next page and mail it with your payment to:

Soft Sector
9529 U.S. Highway 42
P.O. Box 385
Prospect, KY 40059

soft sector

The Monthly Magazine For Sanyo Personal Computer Users

Mixing Colors On The Sanyo Palette

Checking Into
Compilers And C
Computing Home
Renovation Costs
Creating Batch Files



PLUS:
An In-Depth
Look At
The MBC-775

BACK ISSUE ORDER FORM

☐ Please send me the following back issues:

(Payment must accompany back issue orders.)

NO.	MON.	YR.		PRICE	
1	AUG.	'84	PREMIER ISSUE	\$3.00	<input type="checkbox"/>
5	DEC.	'84		\$3.00	<input type="checkbox"/>
6	JAN.	'85		\$3.00	<input type="checkbox"/>
7	FEB.	'85		\$3.00	<input type="checkbox"/>
8	MAR.	'85		\$3.00	<input type="checkbox"/>
9	APR.	'85		\$3.00	<input type="checkbox"/>
10	MAY	'85		\$3.00	<input type="checkbox"/>
11	JUNE	'85		\$3.00	<input type="checkbox"/>

TOTAL _____
SHIPPING & HANDLING* _____
KY RESIDENTS ONLY
ADD 5% _____
TOTAL AMOUNT _____
ENCLOSED _____

* See reverse side.
Save money on back issues.
See the binder ad on Page 65.

NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____
☐ VISA ☐ MC ☐ AE
CARD # _____
EXPIRATION DATE _____
PHONE # _____
SIGNATURE _____

anxiety and keyboard fears. It is designed for all ages and allows you to learn at your own pace.

Type Right is written completely in machine language and offers friendly menu-driven and personalized use. It keeps track of each typist's accuracy and speed — up to 250 words per minute — and saves their personal progress to disk.

Type Right requires 128K and is currently available for \$34.95 from MichTron, 576 S. Telegraph, Pontiac, MI 48053; (313) 334-5700.

* * *

SANYCAD, a computer aided design and drafting program, is designed to help create complex engineering drawings to bar, line or pie graphs, automatic slide shows of computer graphics, background screens for Adventure or arcade games and more.

SanyCad comes with a BASIC subroutine that allows you to use drawings created with *SanyCad* in your BASIC programs. The overlay diskette included with this package contains a sampling of general purpose overlays including mechanical, architectural drafting and electronic drafting symbols.

The *SanyCad* diskette is distributed on a 160K format disk for use with DOS 1.25. It should also work with any version single- or double-sided DOS available for the Sanyo, except the Video RAM Board DOS. *SanyCad* runs in Sanyo BASIC and does not run under GW-BASIC.

SanyCad requires 192K and is currently available for \$99.95 from Computer Associates, Inc., P.O. Box 683, West Fargo, ND 58078; (701) 281-0549.

* * *

SIMPLE CONVERSION. Shamrock Software now has a program on the market called *ABAS*, which converts BASIC programs to Sanyo BASIC. This program actually changes line numbers and statements and inserts REM statements at the end of the program explaining any conversion problems it experienced which require your attention.

ABAS is designed to boost the compatibility of the Sanyo MBC-550/555 computers. It is currently available for \$15.95 from Shamrock Software, P.O. Box 3445, Moscow, ID 83843; (509) 878-1714.

* * *

SPELL is a spelling proofreader which detects misspelled words in document and text files. It works with *PIE*, *WordStar*, *Magic Wand* and others. This program also lists suspect words and optionally marks them in a file for later correction. Sophisticated algorithms and a prefix and suffix comprise an effective dictionary of over 50,000 words into fewer than 31K bytes of disk space.

Spell requires 128K and is currently available for \$49.95 from The Software Toolworks, 15233 Ventura Blvd., Suite 1118, Sherman Oaks, CA 91403; (818) 986-4885.

* * *

The products and services listed above are currently available for Sanyo personal computers and many will be reviewed in future issues of SOFT SECTOR.

SUBSCRIPTION INFORMATION

Your copy of **SOFT SECTOR** is sent second class mail. If you do not receive your copy by the 15th* of the month of the cover date, send us a card and we will mail another. *Canadian subscribers and foreign air mail allow two additional weeks.

You must notify us of a new address when you move. Notification should reach us no later than the 10th of the month prior to the month in which you change your address. Sorry, we cannot be responsible for sending another copy when you fail to notify us.

Your mailing label also shows an "account number" and the subscription expiration date. Please indicate this account number when renewing or corresponding with us. It will help us help you better and faster.

For Canadian and other non-U.S. subscribers, there may be a mailing address shown that is different from our editorial office address. Do not send any correspondence to that mailing address. Send it to our editorial offices at P.O. Box 385, Prospect, KY 40059.

CLUBS CLUBS CLUBS

ALABAMA

Sanyo Users Network
Robert Buster
P.O. Box 4053
Birmingham, AL 35206
(205) 838-2506

ARIZONA

Sanyo Users Group of Arizona (SUGAR)
Fred DeBari
P.O. Box 8316
Mesa, AZ 85204
(602) 892-8229

CALIFORNIA

Sanyo Users Group of Southern California
Sandy Sigal CFR Group
4441 Sepulveda Drive
Culver City, CA 90230
(213) 390-8591

Eureka California SUG
Dave Brawdy
7025 Humboldt Road
Eureka, CA 95501

Sanyo Mis/Dos Users Group (S.M.U.G.)
George D. Blair II
14717 S. Prairie Ave.
Lawndale, CA 90260
(213) 973-6888

Sanyo PC Hackers (International)
Cal Lindell
12155 Edgecliff Pl.
Los Altos Hills, CA 94022
(415) 941-2796

Sanyo Users Group Los Angeles
John Tripp
P.O. Box 38565
Los Angeles, CA 90038
(213) 851-4444

Pomona Valley Sanyo Users Group
Don Bowen
1017 W. Flora Street
Ontario, CA 91762
(714) 983-5269

Sacramento Sanyo Users Group
Randy Jones
P.O. Box 660216
Sacramento, CA 95866-0216
(916) 362-8305

Sanyo SIG of San Diego
John Will
P.O. Box 90195
San Diego, CA 92109
(619) 268-7773

BASUG (Bay Area Sanyo Users Group)
Scott Burry
5840 Geary Blvd. #100
San Francisco, CA 94121
(415) 928-2051

Bay Area Sanyo Technical and
Research Division
Ken Taylor
4008 Pasadena Drive

San Mateo, CA 94403
(415) 345-7781

Sanyo PC Users Group
Allan Senkow
22578 Honnold Dr.
Saugus, CA 91350

COLORADO

Denver Area Sanyo Users Group
Jerry W. Smith
9997 West 85th Avenue
Arvada, CO 80005
(303) 424-7499
modem (303) 431-0051

D.C.I. Computer Club
Ed Allburn
Buckingham Square Shopping Center
1377 B South Joliet
Aurora, CO 80012
(303) 337-7108

Sanyo Computer Club
Norman R. Martell
6651 Metropolitan St.
Colorado Springs, CO 80911
(303) 392-9826

CONNECTICUT

New England Sanyo Users Network
Sid Shore
Sharon Valley Road
P.O. Box 603
Sharon, CT 06069

FLORIDA

Micro's Etc. Sanyo Club
Joe Lewis
233 Shady Hollow
Casselberry, FL 32707

PC Users Group of Florida
Sanyo Special Interest Group (Sanyo/SIG)
Peter Cooke
P.O. Box 9266
Ft. Lauderdale, FL 33310-9266

Sanyo's of Sarasota Users Group (SOS)
Ernie Bontrager
4047 Bee Ridge Road
Sarasota, FL 33582
(813) 921-7510

Brevard Users Group/MS-DOS SIG
John Oborn
P.O. Box 2111
Satellite Beach, FL 32937

Sanyo Computer Club
Peyton Yon
5610 4th St. North
St. Petersburg, FL 33703
(813) 526-6304

Bay Area Sanyo Enthusiast (B.A.S.E.)
Lee Swearingen
P.O. Box 260517
Tampa, FL 33685
(813) 788-7865

GEORGIA

CSRA Sanyo Users
Amos Patterson
P.O. Box 5776
Augusta, GA 30906

HAWAII

Hawaii Sanyo Users Group
Jerry Sobocienski
94-450 Kiliani St.
Mililani, HI 96789

IDAHO

Boise Sanyo Users Group
Jim Puett
1855 Waltman Street
Meridian, ID 83642
(208) 888-4873

Canyon Computer Club
Erwin B. Beckman
123 22 Avenue S.
Nampa, ID 83651

DE-BUG

2038 Center Avenue
Payette, ID 83661
(208) 642-7257

ILLINOIS

Sanyo Mid-Illinois Users Group
John Campbell
3308 E. Washington St.
E. Peoria, IL 61811
(309) 699-2341

Great River Microcomputer Users Group
(GRMUG)
David N. Wexler
47 Lake Drive S., RR #9
Quincy, IL 62301
(217) 222-2343
or
Lon Moeller
1226 Daniel Ct.
Quincy, IL 62301
(217) 223-5891

INDIANA

Bloomington Area Sanyo Users Group
Jerry Farnsworth
6161 N. Shuffle Creek Rd.
Unionville, IN 47468
(812) 336-1184

Indiana Sanyo Users Group
Janet Milenki
P.O. Box 48
New Castle, IN 47362
(317) 529-0526

KENTUCKY

Kentucky Area Sanyo Society
Bob MacDonald
Route 1 Box 859
Lewisport, KY 42351

MARYLAND

Baltimore Sanyo Users Group
Mark Kurzmack
809 W. Barre
Baltimore, MD 21230
(301) 752-2223

Sanyo Users Group
Atul Jai
12613 Brunswick Lane
Bowie, MD 20715

Sanyo Users Group
Roger Moos
P.O. Box 1825
Rockville, MD 20850

MASSACHUSETTS

Sanyo New England
Donald H. Wetzel
99 School Street
Weston, MA 02193
(617) 891-1238

MICHIGAN

Michigan Sanyo Users (M.S.U.)
Lawrence Macionski
P.O. Box 71651
Madison Heights, MI 48071

S.U.G.G.E.S.T. Sanyo
(Special Users Group Gathering
Enjoying Sanyo Technology)
Ralph Landry
Michigan Software
43345 Grand River
Novi, MI 48050
(313) 348-4477

MISSISSIPPI

Mississippi Gulf Coast Sanyo Users Group
Gary Secunda
103 McGuire Drive
Long Beach, MS 39560
(601) 863-6359

MISSOURI

MOARK-Sanyo Users Group
Marshall B. Turner
P.O. Box 504
Golden, MO 65658
(417) 271-3293

NEBRASKA

SLUGO (Sanyo Local Users)
Herb Hickman
2521 S. 132nd St.
Omaha, NE 68144
voice: (402) 330-0920
modem: (402) 453-0914

NEW YORK

New York Sanyo Users Group
Patrick Yanez
P.O. Box 182
Brooklyn, NY 11217
(718) 855-9029

Long Island Computer Association/
Sanyo Users Group
Herbert Jaffe
57 Elinor Place
Freeport, NY 11520
(516) 868-7461

Upstate Sanyo Users Group (UPSUG)
Gary D. Murphy
2988 Cuylerville Rd.
Leicester, NY 14481
(716) 382-3467

Poughkeepsie S.U.G.
Eugene Warfel
Oakwood School
Poughkeepsie, NY 12601
(914) 462-7434

Sanyo Users Group/N.Y., N.J., L.I.
Patrick Yanez
P.O. Box 182
Times Station Plaza, NY 11217
voice: (212) 855-9029
modem: (718) 596-5802

NORTH CAROLINA

J.A.C.P.O.T.
(Jacksonville Area Computer Programmers and
Organized Telecommunications)
Kelth A. Hylton
127B Henderson Drive
Jacksonville, NC 28540
(919) 347-7007

Sanyo CP/M-MS/DOS Group
John L. Johnson
707 Edge Hill Road
New Bern, NC 28560
(919) 638-6976

Triangle Sanyo Users Group
Amnon Nissan
1603 Jones Franklin Road
Raleigh, NC 27606
(919) 851-7609

OHIO

Sanyo Users Quad Society
Jim Grote
P.O. Box 8240
Cincinnati, OH 45208
(513) 321-9637

Sanyo Users Of Central Ohio
5760 Crawford Drive
Columbus, OH 43229
(614) 846-3330

Dayton Area Sanyo Users Group
Mel Lammers
4201 Rushmore
Dayton, OH 45430
(513) 426-7169

Greenville Users Group
John Desmond
c/o Hansbarger's
1119 Dayton Road
Greenville, OH 45331
(513) 548-3174

Akron Sanyo Computer Club (ASCC)
Bruce Creager
5425 Diana Lynn Dr.
Stow, OH 44224
(216) 655-2371

Sanyo Users Group/Toledo Area
Daniel J. Kuna, Ph.D.
820 Security Bldg.
243 North Huron
Toledo, OH 43604
(419) 244-4423

Youngstown Users Group
George Beelen
817 Washington St.
Youngstown, OH 44520
(216) 545-0824

Sanyo PC Users Group
Roger Wilcox

425 Woodlawn Avenue
Zanesville, OH 43701

OKLAHOMA

OKSUG (Oklahoma Sanyo Users Group)
Steve Garman
7701 N. Broadway A-6
Oklahoma City, OK 73116
(405) 842-3236

OREGON

Northwest Sanyo Enthusiasts (NWSE)
George Sipes
P.O. Box 66173
Portland, OR 97266
(503) 658-5490

TEXAS

Amarillo Area Sanyo Users Group
Les Sparks
Box 2052, W.T. Station
Canyon, TX 79016
(806) 622-0547

HOUstons Sanyo Business Users Group
Steve Solomon
7950 Bellfort Avenue #37
Houston, TX 77061
(713) 644-1135

Sanyo Users of Houston Computers for Business
Melba Stone
6680 Highway 6, South
Houston, TX 77083

North Texas Sanyo Users Group
Jerry R. Barnes
637 Pinehurst Dr.
Richardson, TX 75080
(214) 783-9147

San Antonio Sanyo Users Group
Gary E. Joslyn
P.O. Box 2636
Universal City, TX 78148-1636

UTAH

Salt Lake Sanyo Users Group
Thomas Berg
4346 Fortuna Way
Salt Lake City, UT 84124
(801) 272-4743

VIRGINIA

Washington Area Computer Users Group
Edward Cavert
4032 Hadley Lane
Fairfax, VA 22032

Tidewater Virginia Sanyo Users Group
Tom Hardes
4137 Virginia Beach Rd.
Virginia Beach, VA 23452
(804) 463-2028

WASHINGTON

Sanyo National Users Group (S.N.U.G.)
Michael Russell
P.O. Box 2084 CS
Pullman, WA 99163
(509) 878-1714

Spokane SNUG LUG
Doug Vanderlaan
P.O. Box 11998
Spokane, WA 99211

Puget Sound Sanyo Users Group
Charlie Quante
1804 S. 19th
Tacoma, WA 98405

Sanyo Northwest Users Group
(S.N.U.G.)
Alma Greenwood
706 Dennis Street SE #9
Tumwater, WA 98501
(206) 357-7208

CANADA

Sanyo Users Group
Trekker Armstrong
934 5A Street NW #A
Calgary, Alberta
Canada T2N 1R4

Sanyo Canadian Users Group
Eric Lillius
Box 210 Mountain Street

Haliburton, Ontario
Canada K0M 1S0
(705) 457-2774

Sanyo Microcomputer Users Group (SMUG)
Cavan Kelly
116 Phillip Ave.
Scarborough, Ontario
Canada M1N 3R4

P.P.G. Canada Inc.
Rob Murray
456 Albert Street
Strathroy, Ontario
Canada N7G-3J1

JAPAN

Okinawa Sanyo Users Group
Craig D. Veal
PSC 2 Box 14345
APO SF 96367

NEW ZEALAND

Sanyo Users Group NZ
Noel Weeks
P.O. Box 28-335
Remuera, Auckland 5
New Zealand

WEST GERMANY

Central European Sanyo Users Group
(CESUG)
2 Lt. David A. Ferreira
P.O. Box 3101
APO NY 09109-5370

Sanyo Bulletin Board Systems**CALIFORNIA**

29 Palms
300 Baud
24 hours
(619) 368-3839

Novi Download
300/1200 Baud
24 hours
(313) 348-4479

FLORIDA

Micro's Etc.
24 hours
(305) 831-1679

Sanyo Centre
300 Baud
24 hours
(313) 398-0996

ILLINOIS

NationServ
300/1200 Baud
24 hours
(618) VIP-2291

NEW YORK
METRO BBS
300/1200 Baud
24 hours
(516) 596-5802

KANSAS

Bit Bucket
300/1200 Baud
24 hours
(316) 343-8028

OHIO
Tri-County Users
300/1200 Baud
24 hours
(216) 331-5620

Blustem Telecom
300 Baud
24 hours
(316) 321-5072

CANADA
Windsor Canada
300 Baud
5 p.m.-12 p.m.
(519) 254-2459

MICHIGAN

Level IV Products
300/1200 Baud
24 hours
(313) 525-3040

We are compiling a list of Sanyo Users Groups in order that you can find those closest to you and also that they may exchange newsletters, share ideas for topics of discussion at monthly meetings, etc.

Please let us know if we have omitted any clubs and send us complete up-to-date addresses. Also, please notify us if you wish to add or delete any names on this list. Send your information to:

Clubs, Clubs, Clubs
SOFT SECTOR
P.O.Box 385
Prospect, KY 40059



Besides offering an interesting look into the 550/555's memory, this program has a horizontal scrolling routine for uses of your own.

Scrolling Down Memory Lane



A Window Into RAM

By David Neuendorf

It was exciting to learn that the Sanyo 550/555 BIOS contains horizontal scrolling routines. Combined with the well-known vertical scrolling capability, horizontal scrolling will make it easy to create scrolling windows for all kinds of applications. This article presents a BASIC routine with machine language subroutines (Editor's Note: The program as listed requires 256K of memory for space to dimension the array in Line 480. However, the program will run with 128K by reducing the array size in Line 470 by half: BLOCKS=29:LGTH=64.)

(Dave Neuendorf holds degrees in chemistry and metallurgy and is currently employed as an extractive metallurgist. He may be contacted at 281 Continental Dr., Pottstown, PA 19464; 215-327-2970.)

which calls the BIOS scrolling routines to scroll any screen area chosen by the programmer, in any direction. As a demonstration, the routine is put to work in a useful application by placing a scrolling window over any 7K area of RAM or portion of a disk file. The *Memory Window* allows a user to browse freely over an ASCII dump of the specified RAM or file area.

The *Memory Window* uses four machine language subroutines. All four are POKEd into memory in lines 60 through 465. Their individual functions will be discussed at the points in the program where they are called. The rest of the initialization process (lines 470 through 660) involves choosing the window location and dimensions, and the length and width of the underlying memory to be examined. The screen is then set up accordingly.

After the user picks a file or an area of RAM to look at (lines 670 through 740), the chosen data is loaded into a string array called W\$. The length of the strings in W\$ determines the width of the area underlying the window, while the height is determined by the number of strings in W\$. Lines 1100 through 1330 fill W\$ from a disk file, while lines 750 through 1090 move the contents of an area of RAM into W\$. The latter job is done by one of the four machine language subroutines, labelled MOVE in the remarks at the point where the subroutines were POKEd. MOVE was originally coded in BASIC, and took about three minutes to fill W\$ from RAM. Using the machine language version, you will only have to wait about two seconds!

After W\$ has been filled from the desired source, the window is filled with

substrings from the lowest numbered rows and columns of W\$ (lines 1410 through 1520). Another way to look at it is that the window is placed over the upper left-hand corner of the ASCII dump. The printing of these ASCII characters uses another machine language subroutine labeled HFILL, because some testing is done before each character is printed. The characters with ASCII values between six and 13 are unprintable and, in some cases, alter the display because they are display control characters. When HFILL encounters one of these characters, it prints a red asterisk to alert the user to the presence of one of these unprintable ASCII codes.

Control now passes to the scrolling routines in lines 1540 through 2030. The BASIC portion of the routines accepts cursor key control input from the keyboard and calls the appropriate scrolling and back-filling machine language routines. SCROLL is a general purpose up-down-left-right window scrolling routine which does its work by calling the BIOS routines through INT 10H. Parameters are passed to SCROLL by POKEs rather than on the stack (the normal way), because I believe that it will make it transportable to an IBM PC if anyone should want to do so. HFILL and VFILL print data — including the red

asterisks — on the blank horizontal or vertical lines left after each scroll. These routines are another case where machine language makes the difference between slow, jerky motion and fast, smooth action. When coded in BASIC, HFILL took about two seconds to back-fill after a vertical scroll. Compare that to what you see now when you run *Memory Window*.

To use *Memory Window*, run it from Sanyo BASIC in the normal way. In response to the FILE/RAM prompt, type only an 'F' or an 'R', and do not RETURN. You may then enter the name of a file or the segment and offset (in hexadecimal) of an area of RAM to examine. *Memory Window* will take over from there, placing the window over the data you wish to peruse. Press any of the four cursor control keys to scroll the window contents in the direction of the arrow on the key. The window will not scroll beyond the area defined by the dimensions of W\$ (currently 128 columns by 60 rows). Press ESC when you are finished scrolling over a particular set of data. *Memory Window* will then allow you to select another file or area of RAM.

"Scrolling Down Memory Lane" can be both enlightening and entertaining. Try to find the BASIC interpreter and

where it stores programs and variables, including *Memory Window* itself and its main data, W\$. *WordStar* files are fun to look at, since while they are more or less intelligible, they contain a lot of Greek letters as control characters.

More interesting than *Memory Window* itself (it is, after all, only a demonstration) are the potential uses of the machine language subroutines SCROLL, HFILL and VFILL. Anyone reasonably familiar with BASIC should be able to adapt these and other parts of *Memory Window* to all kinds of purposes. How about a menu with selections made by scrolling the options past a stationary cursor or an Adventure game which uses a stationary window over a maze constructed of graphics characters? I hope *Memory Window* helps to open for you the many possibilities of scrolling.

If typing the data statements is too intimidating a job, I would be happy to supply you with a copy of the program on disk. Just send a blank disk with a self-addressed, post-paid mailer and \$5 to: David W. Neuendorf, Neu Systems, 281 Continental Drive, Pottstown, PA 19464. (Also available, of course, on the July edition of *SOFT SECTOR ON DISK*.)

Please indicate if you would be interested in the assembler source code listings as well.

The listing: MEMWINDO.BAS

```

10 REM *****
20 REM ***** MEMORY WINDOW *****
30 REM *** Demonstration of BASIC text window handling subroutines *****
40 REM *** by David W. Neuendorf, 2/85 *****
50 REM ***
60 DEF SEG:REM *** Insert ML routines. *****
70 RESTORE 90:FOR X=0 TO 400:READ Y:POKE X,Y:NEXT
80 GOTO 470
90 DATA &H1e,&H06,&H16,&Hb4,&H0,&Hb0,&h1,&Hb5,&H0,&Hb1,&H0:REM *** Scroll ****
100 DATA &hb6,&h0,&Hb2,&h0,&Hb7,&H0
110 DATA &Hcd,&H10,&H17,&H7,&h1f,&Hcb
120 DATA &h1e,&h06,&h55,&h8b,&hec,&hc5,&h5e,&h22,&h8b,&h7:REM *** Move *****
130 DATA &h89,&h46,&h22,&hc5,&h5e,&h1e,&h8b,&h7,&h89,&h46
140 DATA &h1e,&hc5,&h5e,&he,&h8b,&h7,&h89,&h46,&he,&hc5
150 DATA &h5e,&ha,&h8b,&h7,&h89,&h46,&ha,&hc5,&h5e,&h12
160 DATA &h8b,&hf,&h8b,&h5f,&h2,&ha,&hed,&hbf,&h16,&h0
170 DATA &h75,&h3,&hbf,&h1a,&h0,&hc5,&h3b,&h8e,&h5,&h8e
180 DATA &h5e,&h22,&h8b,&hfb,&h8b,&h76,&h1e,&h8b,&h56,&he
190 DATA &h8b,&h4e,&ha,&hf3,&ha4,&h4a,&h74,&h9,&h8b,&h4e,&ha,&h2b,&hfb
200 DATA &h2b,&hf9,&heb,&hf2,&h5d,&h7,&h1f,&hca,&h1c,&h0
210 DATA &h1e,&h55,&h8b,&hec,&hc5,&h5e,&h8,&h8b,&h7,&h89:REM *** HFILL *****
220 DATA &h46,&h8,&hc5,&h5e,&hc,&h8b,&h7,&h89,&h46,&hc

```



```

230 DATA &hc5,&h5e,&h10,&h8b,&h7,&h89,&h46,&h10,&hc5,&h5e
240 DATA &h14,&h8b,&h7,&h89,&h46,&h14,&hc5,&h5e,&h18,&h8b
250 DATA &h7,&h89,&h46,&h18,&hc5,&h5e,&h1c,&h8b,&hf,&h8b
260 DATA &h5f,&h2,&ha,&hed,&h8b,&h46,&hc,&h75,&h3,&h8b
270 DATA &h46,&h8,&h8e,&hd8,&hb5,&h0,&h8b,&hc1,&h8b,&h4e
280 DATA &h18,&h80,&hf9,&h1,&h74,&h5,&h49,&h2b,&hd8,&he2
290 DATA &hfc,&h8b,&h4e,&h14,&h3,&hd9,&h4b,&h8b,&h4e,&h10
300 DATA &h8a,&h7,&h53,&h51,&hb3,&h2,&h3c,&h6,&h7c,&h8
310 DATA &h3c,&hd,&h7f,&h4,&hb0,&h2a,&hb3,&h4,&hb4,&h9,&hb7,&h1,&hb9
320 DATA &h1,&h0,&hcd,&h10,&hb4,&h3,&hcd,&h10,&hb4,&h2,&h42
330 DATA &hcd,&h10,&h59,&h5b,&h43,&he2,&hd7,&h5d,&h1f,&hca,&h18,&h0
335 DATA &heb,&h3,&h90,&h0,&h0:REM *** VFILL *****
340 DATA &hle,&h55,&h8b,&hec,&hc5,&h5e,&h8,&h8b,&h7,&h89
350 DATA &h46,&h8,&hc5,&h5e,&hc,&h8b,&h7,&h89,&h46,&hc
360 DATA &hc5,&h5e,&h10,&h8b,&h7,&h89,&h46,&h10,&hc5,&h5e
370 DATA &h14,&h8b,&h7,&h89,&h46,&h14,&hc5,&h5e,&h18,&h8b
380 DATA &h7,&h89,&h46,&h18,&hc5,&h5e,&h1c,&h8b,&hf,&h8b
390 DATA &h5f,&h2,&ha,&hed,&h8b,&h46,&hc,&h75,&h3,&h8b
400 DATA &h46,&h8,&h8e,&hd8,&hb5,&h0,&h8b,&hc1,&ha3,&h3,&h0,&h8b,&h4e
410 DATA &h18,&h80,&hf9,&h1,&h74,&h5,&h49,&h2b,&hd8,&he2
420 DATA &hfc,&h8b,&h4e,&h14,&h3,&hd9,&h4b,&h8b,&h4e,&h10
430 DATA &h8a,&h7,&h53,&h51,&hb3,&h2,&h3c,&h6,&h7c,&h8
440 DATA &h3c,&hd,&h7f,&h4,&hb0,&h2a,&hb3,&h4,&hb4,&h9,&hb7,&h1,&hb9
450 DATA &h1,&h0,&hcd,&h10,&hb4,&h3,&hcd,&h10,&hb4,&h2,&h80,&hc6,&h1
460 DATA &hcd,&h10,&h59,&h5b,&h2b,&hle,&h3,&h0,&he2
465 DATA &hd2,&h5d,&h1f,&hca,&h18,&h0
470 BLOCKS=58:LGTH=128:REM *** Organize data as $array, 58*128; total = ~7K ***
480 DIM W$(BLOCKS,LGTH),DISK$(LGTH),B$(LGTH):RAMSEG=VARPTR(W$(0,0),1)
490 ROW=6:COL=9:ROWS=10:COLS=64:CMES=COL-1:RMES=2+ROW+ROWS
500 REM *****
510 CLS:SYMBOL(COL*8+100,ROW*8-32),"The Memory Window",2,1,4
520 LOCATE ROW-1,COL-1,0:REM *** Draw frame around window *****
530 COLOR 3
540 PRINT CHR$(201); STRING$(COLS,CHR$(205)); CHR$(187);
550 FOR X=0 TO ROWS-1
560 LOCATE ROW+X,COL-1:PRINT CHR$(186):LOCATE ROW+X,COL+COLS:PRINT CHR$(186)
570 NEXT X
580 LOCATE ROW+ROWS,COL-1:PRINT CHR$(200); STRING$(COLS,CHR$(205));
590 PRINT CHR$(188)
600 COLOR 2
610 REM *****
620 LOCATE RMES,CMES:PRINT STRING$(64," "):LOCATE RMES,CMES
630 PRINT "Clearing some memory for the window..."
640 FOR X=1 TO BLOCKS:REM *** Clear string array. *****
650 W$(X,1)=""
660 NEXT X
670 LOCATE RMES,CMES:REM *** Choose disk file or RAM *****
680 PRINT STRING$(64," "):LOCATE RMES,CMES
690 PRINT "Do you want to examine a file or part of RAM?(F/R)"
700 LOCATE RMES+1,CMES:COLOR 4:PRINT "Press <ESC> to exit to BASIC.":COLOR 2
710 A$=INKEY$:IF A$="" THEN 710
720 IF A$="F" OR A$="f" THEN 1110
730 IF A$=CHR$(27) THEN END
740 IF A$<>"R" AND A$<>"r" THEN 710
750 REM *****
760 LOCATE RMES,CMES:PRINT STRING$(64," "):REM *** Remove message *****
770 REM *** Use window to examine RAM *****
780 LOCATE RMES,CMES
790 INPUT "Please enter a hexadecimal segment address: ", S$

```



```

800 REM *****
810 IF LEN(S$)=0 THEN 880
820 IF S$=CHR$(27) THEN END
830 NH$=LEFT$(S$,1):HT=ASC(NH$):REM *** Ensure valid segment & offset addresses
840 IF (HT>47 AND HT<58) OR (HT>64 AND HT<71) OR (HT>96 AND HT<103) THEN 870
850 S$=RIGHT$(S$,LEN(S$)-1):IF LEN(S$)=0 THEN 880
860 GOTO 830
870 RAMSEG=VAL("&H"+S$):IF RAMSEG<=65535! THEN 900
880 LOCATE RMES,CMES:PRINT STRING$(64," ")
890 LOCATE RMES,CMES:INPUT "Enter a number between 0 and FFFF: ",S$:GOTO 810
900 LOCATE RMES,CMES:PRINT STRING$(64," ")
910 LOCATE RMES,CMES:INPUT "Please enter a hexadecimal offset address: ",S$
920 IF LEN(S$)=0 THEN 990
930 IF S$=CHR$(27) THEN END
940 NH$=LEFT$(S$,1):HT=ASC(NH$)
950 IF (HT>47 AND HT<58) OR (HT>64 AND HT<71) OR (HT>96 AND HT<103) THEN 980
960 S$=RIGHT$(S$,LEN(S$)-1):IF LEN(S$)=0 THEN 990
970 GOTO 940
980 RAMOFFSET=VAL("&H"+S$):IF RAMOFFSET<=65535! THEN 1010
990 LOCATE RMES,CMES:PRINT STRING$(64," ")
1000 LOCATE RMES,CMES:INPUT "Enter a number between 0 and FFFF: ",S$:GOTO 920
1010 FOR X=1 TO BLOCKS
1020 W$(X,1)=STRING$(LGTH," ")
1030 NEXT
1040 DEF SEG:MOVE=23
1050 RA%=INT(RAMSEG):OF%=INT(OFFSET):S2%=INT(SEG(2)):S1%=INT(SEG(1))
1060 BL%=INT(BLOCKS):LG%=INT(LGTH)
1070 CALL MOVE,RA%,OF%,S2%,S1%,W$(1,1),BL%,LG%
1080 GOSUB 1340
1090 GOTO 620
1100 REM *****
1110 REM *** Use window to examine a disk file *****
1120 LOCATE RMES,CMES:PRINT STRING$(64," "):REM *** Remove message *****
1130 LOCATE RMES,CMES
1140 PRINT "Please enter the name of the file to be examined: ";
1150 A$=INKEY$:IF A$="" THEN 1150
1160 IF A$=CHR$(27) THEN END
1170 PRINT A$;:INPUT "", F$:F$=A$+F$
1180 ON ERROR GOTO 1200
1190 GOTO 1210
1200 PRINT "Disk error ";ERR; " in line "; ERL:END
1210 OPEN "R", #1,F$,LGTH
1220 FIELD #1,LGTH AS DISK$
1230 ON ERROR GOTO 1250
1240 GOTO 1260
1250 X=BLOCKS+1:RESUME NEXT
1260 FOR X=1 TO BLOCKS
1270 GET #1
1280 W$(X,1)=DISK$
1290 NEXT
1300 CLOSE #1
1310 ON ERROR GOTO 0
1320 GOSUB 1340
1330 GOTO 620
1340 REM *****
1350 REM *** Window Handling Package *****
1360 LOCATE RMES+1,CMES:PRINT STRING$(64," ")
1370 GOSUB 1400:REM *** Fill window with data from file or RAM *****
1380 GOSUB 1530:REM *** Handle scrolling of window contents *****

```



```

1390 RETURN
1400 REM *****
1410 REM *** Subroutine to print W$ in window. *****
1420 REM ***
1430 FOR X=1 TO BLOCKS:REM *** Add trailing blanks to strings ***
1440 B$=STRING$(LGTH-LEN(W$(X,1))," "):W$(X,1)=W$(X,1)+B$
1450 NEXT X
1460 DEF SEG:HFILL=116:VFILL=252:S2%=INT(SEG(2)):S1%=INT(SEG(1)):WC%=INT(1)
1470 C%=INT(COLS)
1480 FOR X=1 TO ROWS
1490 LOCATE ROW+X-1,COL
1500 X%=INT(X):CALL HFILL,W$(1,1),X%,WC%,C%,S1%,S2%
1510 NEXT X
1520 WROW=1:WCOL=1:RETURN
1530 REM *****
1540 REM *** Subroutine to handle scrolling of window. *****
1550 REM ***
1560 DEF SEG:SCROLL=0:POKE SCROLL+16,7:POKE SCROLL+6,1:POKE SCROLL+10,COL-1
1570 POKE SCROLL+8,ROW-1:POKE SCROLL+14,COL+COLS-2:POKE SCROLL+12,ROW+ROWS-2
1580 LOCATE RMES,CMES
1590 PRINT STRING$(64," "):LOCATE RMES,CMES
1600 PRINT "Press arrow keys to scroll window, or <ESC> when finished."
1610 A$=INKEY$:IF A$="" THEN 1610
1620 IF A$=CHR$(27) THEN 620
1630 IF ASC(A$)>31 THEN 1610:REM *** Don't allow negative argument. *****
1640 ON 32-ASC(A$) GOSUB 1660,1740,1820,1930:REM *** 1=down,2=up,3=right,4=left
1650 GOTO 1610
1660 REM *** Down scroll subroutine *****
1670 IF WROW=1 THEN RETURN
1680 WROW=WROW-1
1690 POKE SCROLL+4,7:CALL SCROLL
1700 LOCATE ROW,COL:DEF SEG
1710 X%=INT(WROW):WC%=INT(WCOL)
1720 CALL HFILL,W$(1,1),X%,WC%,C%,S1%,S2%
1730 RETURN
1740 REM *** Up scroll subroutine *****
1750 IF WROW=BLOCKS-ROWS+1 THEN RETURN
1760 WROW=WROW+1
1770 POKE SCROLL+4,6:CALL SCROLL
1780 LOCATE ROW+ROWS-1,COL:DEF SEG
1790 X%=INT(WROW+ROWS-1):WC%=INT(WCOL)
1800 CALL HFILL,W$(1,1),X%,WC%,C%,S1%,S2%
1810 RETURN
1820 REM *** Right scroll subroutine *****
1830 IF WCOL=1 THEN RETURN
1840 WCOL=WCOL-1
1850 POKE SCROLL+4,&H72:CALL SCROLL
1855 LOCATE ROW,COL
1860 X%=INT(WROW):WC%=INT(WCOL):R%=INT(ROWS)
1870 CALL VFILL,W$(1,1),X%,WC%,R%,S1%,S2%
1880 RETURN
1890 REM *** Left scroll subroutine *****
1900 IF WCOL=COLS THEN RETURN
1910 WCOL=WCOL+1
1920 POKE SCROLL+4,&H73:CALL SCROLL
1925 LOCATE ROW,COL+COLS-1
1930 X%=INT(WROW):WC%=INT(WCOL+COLS-1):R%=INT(ROWS)
1940 CALL VFILL,W$(1,1),X%,WC%,R%,S1%,S2%
1950 RETURN
2030 RETURN

```


Continued from page 8

— was (mostly) repair service and support. They now see a “cleaner” distribution network for Sanyo.

The bottom line in all of this is that you will not be able to buy Sanyo products through the mail other than from authorized dealers who have Sanyo's permission to sell by mail. This, obviously, necessitates a change on the part of our advertising policies here at **SOFT SECTOR**.

Those changes are that, as soon as practical, we will no longer allow advertising by price for Sanyo products

only from anyone who is not an authorized Sanyo dealer. Dealers may suggest you call them for prices, however. If this seems like a case of bowing to Sanyo, consider the alternative.

If Sanyo is successful in controlling mail-order sales, then we do not want to be a party to the possibility that you get “stuck” with a computer which cannot be supported. The whole purpose of **SOFT SECTOR** is to help you. If we knowingly put you in touch — through an advertisement — with someone who cannot support the computer you buy,

then we do you a grave disservice. We certainly do not want to do that.

The “rap” against Sanyo has long been that their product is great but their support and service is, generally, terrible. Goulart and company are trying to address this problem. We plan to assist because we believe a good service and support network is necessary to the viability of any computer system.

In short, we believe everyone wins. All around.

— Lonnie Falk



PRICKLY-PEAR SOFTWARE

QUALITY SOFTWARE FOR THE SANYO 550 SERIES

PERSONAL FINANCIAL MANAGEMENT SYSTEM — This package of programs keeps track of finances completely and easily. It allows up to 99 income and expense accounts, maintains monthly or yearly budgets, does bar graphs, transaction journals, income and expense statements, balance sheets, and monthly comparisons. You can password protect files if you wish, and you can enter transactions daily, weekly, or monthly. Get organized and find out where you really stand. Needs 128K, 2 SS or 1 DS disk drive, and an 80 column or larger printer. **\$49.95**

ASTROLOGY — This program calculates natal horoscopes to an accuracy of about 1 minute of arc. It calculates all planet positions, moon, nodes, midheaven, ascendent, house cusps in five different house systems, all aspects, and harmonics. It does tropical or sidereal charts using the geocentric or heliocentric coordinate system. The five house systems available are Regiomontanus, Equal, Koch, Campanus, and Placidus. The orb for aspects can be specified within the range of 1 to 9 degrees, and even the minor aspects are computed. All you have to know is the time and place of birth. This program does hours of calculations in just five minutes, and is in use by many professional astrologers. **\$34.95**

TRIVIA TRIVIA — As many of you know, trivia fans are the nicest people, and now your favorite computer can be magically transformed into the ultimate trivia game. This game comes with 1100 questions in five categories, and there are already four more question disks available with 1100 questions each. That's 5500 questions!! You can play **TRIVIA TRIVIA** by yourself or up to four can play against each other, and you have options to set the game length. Educators will want to note that a program is included to develop your own questions disks easily, and your students can play **TRIVIA TRIVIA** and learn their lessons as a happy side effect. If you like trivia, don't miss **TRIVIA TRIVIA**. The game with the question disk development program and 1100 questions in five categories is **\$34.95**. Additional question disks with 1100 questions each are available with questions on the BIBLE, ENTERTAINMENT, SPORTS, and questions for CHILDREN, and these are **\$19.95** each. If you order additional question disks at the same time as the game they are only **\$14.95** each.

VIKING! — This famous simulation of running a Norse holding while you try to become King or Queen is finally available for your Sanyo. Now you can experience the most popular simulation of all time and find out for yourself why clubs formed all over the world to play this game. Do you have what it takes to start as a Land Holder, fight off the raiders and rats, acquire land, build an army, equip expeditions, set taxes, and manage your many assets? There is no other simulation that compares with **VIKING!** For 1 to 4 players, games take 2 to 4 hours, and there is a save the game feature. — **\$34.95**

FOR ORDERS OR QUESTIONS CALL 1-800-223-5369 EXTENSION 256

Specify System on order

Dealer Inquiries Welcome

Send Order To: PRICKLY-PEAR SOFTWARE

Your Personal check is welcome - no delay. Include \$1.50 shipping for each program ordered. (Shipping free on \$50.00 or larger orders). AZ residents add 7% sales tax. Orders shipped within two days.



2640 N. Conestoga Ave.
Tucson, Arizona 85749
(602) 749-2864



Continued from page 7

REVIEWING REVIEWING REVIEWS

Editor:

Your policy on software review rebuttal is refreshing. Since I read both the review and the rebuttal, I have both sides of the debate. It is most interesting to see the same piece of software from two different angles.

S.G. Geisel
Fairfax, VA

REVIEWING REVIEWS

Editor:

The review of *PREP*, U.S. Digital's personal expense ledger software (May '85, Page 78), was balance and objective — insofar as it was reviewing the product. We are pleased that the reviewer accurately reported *PREP*'s ease of use, its practical flexibility, excellent user's manual, and the program's reasonable price. Insofar as he chose to review our advertising program, however, we feel the reviewer's opinions were out of place.

We'd prefer to be spared a subjective critique of our “marketing approach” in a software review. Unless the reviewer notes something objective that the program fails to do according to claim, he need not appoint himself advertising critic. Even if such criticisms had merit, a product review is not the appropriate forum. The important thing in a product review is the quality of the software — whether it does what it is supposed to do and is worth the price. On these counts, the reviewer gave *PREP* top marks. . . .

In summary, we stand by our advertising as well as our products. *PREP* is simply the best of its kind for the Sanyo 550/555 or 775. We want to thank the reviewer for objectively acknowledging this fact.

Paul O'Brien
U.S. Digital
Portland, OR

RACKSELLERS

The stores listed below carry **SOFT SECTOR** on a regular basis and may have other products of interest to Sanyo personal computer users. We hope you will patronize those in your area.

ALABAMA

Birmingham

Command Computer
Computer Engineers Inc.
The Computer Store
Madison Books
Mall Tel
Trade-N-Books

Madison

Mobile

Montgomery

ARIZONA

Flagstaff

Phoenix

Datasystems
Apollo Computers
Tri-Tek, Inc.
Books, Etc.
Computer Library

Tempe

CALIFORNIA

Folsom

Hayward

Huntington

Beach

La Jolla

Lancaster

Los Angeles

Computers, Etc.
3E Software & Systems

Hammer Industries
Affordable Computers
Desert Computing
Computer Masters
OPAMP

N. Hollywood

Norco

Poway

Riverside

Sacramento

San Bruno

San Diego

Levity Distributors
West Custom Studios
Creative Computer Corp.
Famis Computers
Software Centre International
Home Computing Centers, Inc.
Byte & Floppy Computers
Programs Unlimited

San Francisco

San Jose

San Luis Obispo

Aquarian Age Computer Center
Business Computer Mart
El Corral Bookstore
Paradise Computer Systems
Information Systems Unlimited
Sawyer's News, Inc.
Data Systems West
Hardings Way News
Computer Haven
Friendly Computers
The Computer Place
ECX Computer Co.

Santa Maria

Santa Rosa

Sherman Oaks

Stockton

Upland

Vista

Walnut Creek

COLORADO

Aurora

Colorado Springs

Englewood

Security

Devi Computers
The Computer Farm
Whole Life Distributors
Video Communications & Computers, Inc.

CONNECTICUT

Manchester

Meriden

Stamford

Wallingford

DELAWARE

Wilmington

Computer Training Institute
Total Computers
Norman Block Associates
Comstat

Nor-Mar — The Smoke Shop

FLORIDA

Altamonte

Springs

Boca Raton

Brooksville

Clearwater

Micro's Etc.
Software, Software, Inc.
All American Electronics
Software City
Southern Micro Computer Co.
Computer Ease
Computerized Applications
AA Computer Exchange
Florida Computer Resources
Electronic Specialty Products
City News Stand
B & B Office Equipment
Micro's, Etc.
Compuworld
Micro's, Etc.
Allstate Business Center
Computers, Computers, Computers
Computer Image
Programs Unlimited
Advanced Business Systems, Inc.
Rainbow Computer Center
Micro's Etc.
Computer Systems Group
Computer Town
Micro's Etc.
Computer Trends
Sanibel Audio

Ft. Lauderdale

Gainesville

Jacksonville

Longwood

Melbourne

Merritt Island

Miami

Orlando

Ormond Beach

Panama City

Point Orange

Port Richey

Sanibel Island

Sarasota
Seminole
Shalimar
St. Petersburg
Stuart
Tampa

GEORGIA

Augusta

Atlanta

Columbus

Decatur

Lithonia

IDAHO

Boise

Moscow

Nampa

ILLINOIS

Belleville

Bloomington

Chicago

Rockford

Salem

Urbana

INDIANA

Ft. Wayne

Indianapolis

Kokomo

Marion

West Lafayette

KANSAS

Lawrence

Salina

Wichita

KENTUCKY

Cynthiana

Louisville

Owensboro

Prospect

Radcliff

LOUISIANA

Gretna

Opelousas

Sulphur

Thibodaux

MAINE

Bangor

MARYLAND

Baltimore

Bethesda

Camp Springs

Millersville

Oakland

Pasadena

Riverdale

Savage

Silver Springs

Towson

Waldorf

Wheaton

MASSACHUSETTS

Danvers

Waltham

MICHIGAN

Allen Park

Ann Arbor

Berkley

Charlotte

Dearborn

Farmington

Fenton

Fremont

Grand Rapids

Lapeer

Mt. Clemens

Muskegon

Novi

Owosso

Pontiac

Rochester

Royal Oak

Southgate

Sterling Heights

Troy

Union Lake

Wyandotte

Family Computers
Home Computer Discount, Inc.
Discount Discs
Software Connection
Computer Market Place
Computer Dimensions
Personal Computer Center
Southern Micro Computer Co.

Ram, Inc.

The 64 Store

Guild News Agency

Southern Computer

Alboes Computers

Corr-Puters

Certified, Inc.

Western Computer & Office Supplies

H & S Computer Supplies

Canyon Computers & Communications

Software Or Systems

TPS Computers

J. Powell & Associates

Central Business Machines

Hyde Park Computers

Learn-A-Bit

Salem Computer Systems

Sunnycrest Business Systems

Bytrex

Digital Perspectives

Accolade Computer Design

A Computer Store

Toso Computer Shop

Computer Corner

Von's Computers

Computer Outlet

Computer Connection

Wichita Computer & Supply

Accounting Data Corp

Software Source

Computer Stall

Falsoft, Inc.

Bluebird Computer

The Computer Supply Store

Sound Electronics

Home Computer & Software

Great Southern Computer Systems

Downeast Specialty Co.

Computers Edge

Technology Equipment Center

Compudeo

Comp-U-Type

Englanders Pharmacy

RW Electronics Computer Center

Custom Computers

D & H Distributing Co.

A-OK Computers

Greetings & Readings

Waldorf Computer

Micro Computer Co.

Microcon Computers & Softwarecenter

Computer Magic

Galaxy Computers

University Cellar

Family Computers

Computer Options

Alpha-K Computer Co.

DSL

ComputerTowne

Computer Control Systems

Petry Products

POS Electronic Business Systems

Burma Electronic Dist. Co.

Programs Unlimited

Computer Corner

Business Computer Systems

Computer Plus, Inc.

Key Book Shop

8-Bit Corner

Michigan Software

C/C Computer Systems

Michtron

Rochester Book Center

1-2-3 Compute

New Logic Computers

Popular Computer Centers, Inc.

The Family Room

Creative Center

Small Business Computers, Inc.

ComputerTech

Wyoming

Ypsilanti

MINNESOTA

Minneapolis

MISSOURI

Aurora

Columbia

Creve Coeur

Independence

Kansas City

Republic

St. Louis

MONTANA

Billings

Whitehall

NEBRASKA

Omaha

NEVADA

Las Vegas

Reno

NEW HAMPSHIRE

Berlin

Laconia

NEW JERSEY

Lake Hopatcong

Lawrenceville

Ocean City

NEW MEXICO

Alamogordo

Albuquerque

NEW YORK

Amityville

East Rochester

Farmingville

Great Neck

Lake Grove

Plattsburg

Rochester

Wappingers Falls

NORTH CAROLINA

Atlantic Beach

Carboro

Cary

Chapel Hill

Mt. Airy

Raleigh

NORTH DAKOTA

Buxton

Riverside

OHIO

Ashland

Canal Fulton

Canton

Cincinnati

Columbus

Cuyahoga Falls

Euclid

Fairborn

Fairfield

Greenville

Kettering

Lombard

SOUTH CAROLINA

Charleston
Heights
Travelers Rest
Software Haus
Concurrent Technologies Corp.

TENNESSEE

Knoxville
First Byte Computer Co.

TEXAS

Austin
Carrollton
Dallas
Houston
Electronics Insight
Videoland
ABS Business Products
Computer King
Texas Computer Products
Wagner Bros. Computer Store

San Antonio

UTAH

Logan
Provo
Sound Station
Lloyd's Business Machines

VERMONT

Rutland
Computer Marketing

VIRGINIA

Alexandria
Alonso Book & Periodicals
Custom Computers
Micro Flow Co.
BES, Inc.
Family Computer Center
Soft Cast
Salem Computer Center
Gloucester Electronics
Business Machine World
Micro-Enhancements
Fairfax Computer Corp.
Beach Business Machines

WASHINGTON

Bellevue
Centralia
College Place
Commercial Computer Systems
Centralia Computer Center
Discount Computer Supply

Federal Way
Marysville

Renton
Seattle

Spokane

WEST VIRGINIA

Charleston
Morgantown

WISCONSIN

Janesville
Stevens Point

AUSTRALIA:**SYDNEY**

Kingsford

VICTORIA

Melbourne

CANADA:**ALBERTA**

Calgary

Edmonton

Grand Prairie

BRITISH COLUMBIA

Abbotsford
Richmond
Langley
Penticton
Clearbrook Computer Centre
Computer King
Mainland Magazine Service
Corporate Computers

Compu-Place
Crown Microproducts
Computer Centers
Computer World
Puguet Sound Electronics
Bits & Chips
Pioneer Computers
R&K Enterprises
Quality Software

Salmon's Diversified Office Services
Computer Closet

Emerald Computers
Mom's Computers

Paris Radio Electronics

Computer Biz

Tesseract Computer Systems
The Computer Shop
CompuSoft
Computique
Compu-ware
Disk and Chip
Kelly Software Distributors
LEW Computers

Port Coguitiam
Prince George
Surrey

Victoria

MANITOBA

Winnipeg

NOVA SCOTIA

Halifax

ONTARIO

Burlington
Guelph
Kitchener
London
Ottawa
Peterborough
Scarborough
Toronto

Waterloo

Windsor

QUEBEC

Montreal

SASKATCHEWAN

Saskatoon

ENGLAND

East Sussex

NEW ZEALAND

Palmerston North

SWEDEN

Alvsjo

VENEZUELA

Maracaibo

CompuIt
Computer King
Computer King
The Computer Dept. of London Drugs
Odyssey Computer Services

Micro-Mentor, Inc.

Atlantic News

Burlington Business Systems
Neutron Computers, Inc.
Home Computer Centre
Town & Country Business Machines
E.T. Wilson Office Equipment LTD.
Computer Support
Scitron
Computer Junction
CP&A

Computer Junction
Facts & Figures Computer Service

Lemond PC

Memory Lane Computers

Molimerx LTD

Viscount Electronics LTD

Woniam, AB

Byte Computer Center

ADVERTISERS INDEX

We encourage you to patronize our advertisers — all of whom support the Sanyo line of personal computers. We will appreciate your mentioning **SOFT SECTOR** when you contact these firms.



A-OK Computers.....57, 59
AA Computer Exchange18
BGW Systems25
BMC.....55
Binary Tree Technology50
Block Marketing, Inc.43
Bluewater Software32
C-Tek32
CBS Educational and Professional
Publishing51
Chaucer Software19
Chryson Computer58
CompuSoft56
Comp-U-Type31
Computer Alpha Corp.8
Computer Associates, Inc.56
Computer Creations, Inc.47
Computer Solutions24
Computer Toolbox, Inc., The3
Datalog33
Diversified Computers54
Federal Hill Software33
Future Systems33
Hammer Industries, Inc.40
Harvard Associates32
ICR FutureSoft5
James River Group, Inc., TheBC
Kyntek Marketing.....62

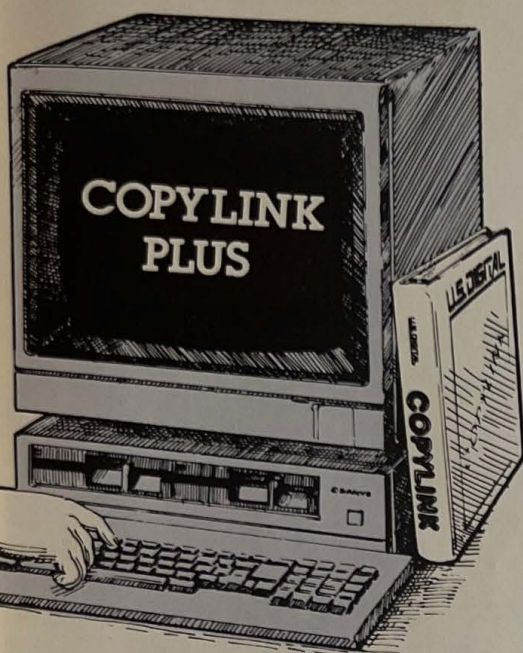
LaPlata Research42
Lemberger Company, The60
Level IV Products, Inc.61
MichTronIFC, 16, 35
Michigan Software Distributors41
MidWest Micro Peripheral7
Olympic Educational Software11
Owl-Services41
Peripheral Products Distributing46
Prickly-Pear Software76
PT Software54
Rocky Mountain Micro31
Sanyo63
Scottsdale Systems9
Soft Sector Binders65
Soft Sector On Disk64
Software Answers60
Software Toolworks22
Spectrum Solutions45
Systems Peripherals Consultants23
T W Technologies, Inc.27
Tampa Bay Digital45
Thumper Productions40
TOP Software49
True Data43
U.S. Digital CorporationIBC
Wagner Brothers34
Writing Consultants18

Call:
Jack Garland
Garland Associates, Inc
10 Industrial Park Road
Hingham, MA 02043
(617) 749-5852

Call:
Kate Tucci
Advertising Representative
9529 U.S. Highway 42
P.O. Box 385
Prospect, KY 40059
(502) 228-4492

Call:
Cindy Shackelford
Director, West Coast Office
12110 Meridian South—Suite 8
P.O. Box 73-578
Puyallup, WA 98373-0578
(206) 848-7766

IT PAYS TO INVEST IN HIGH QUALITY SOFTWARE



NOW INTRODUCING COPYLINK-PLUS THE FIRST OF ITS KIND

What have you been waiting for in PC communications? At last it's available. Introducing COPYLINK-PLUS, a true communications language. If you know the BASIC commands PRINT, IF, LET, GOTO and GOSUB, then you can use COPYLINK-PLUS to direct your computer to communicate automatically. Using the language is a step so powerful that you will forget everything else because COPYLINK-PLUS will do it all. COPYLINK-PLUS will make you truly excited about what you can do.

VT100 Emulation

COPYLINK-PLUS also provides VT100 emulation allowing the use of the full range of function keys (32 which you can re-define). For even further flexibility VT52 and ADM-3A emulation is provided along with Extensive ANSI screen control including color screen support.

Like COPYLINK, the new COPYLINK-PLUS does all the things a communications program should do: auto-dialing (and re-dialing), easy uploading and downloading, automatic logons, etc. Furthermore, it's just as flexible as COPYLINK to handle any communications situation that may come up - to reconfigure parameters on the fly, handle a full disk situation without losing data, automatically save downloaded files and disconnect the line, remote unattended communications, etc. Special introductory price . . . \$129.95

"The Strongest Link"

COPYLINK Regular is still the most sophisticated program of its type, but it is also extremely fast and easy to use. Just "ADD" a name (like "COMPUSERVE") to the unlimited directory of phone numbers and "CALL COMPUSERVE". That's all you have to do to get online. What could be faster and easier? No tiresome menus to muck through long after you stopped needing them. Yet "HELP" is always there. COPYLINK runs on over 50 MSDOS and CP/M systems allowing the most reliable file transfers between incompatible systems, including the Sanyo 550 and 775 as well as many CP/M machines (incl. MBC 1150 and 1250) - with any kind of 300 or 1200 baud modem. Comes with a free Dow Jones subscription which is worth \$125 by itself. All this for only . . . \$99.95

Impressive reviews

If you want software that really lives up to its billing, it's wise to consult the professional reviewers.

Software Source (Australian Sanyo distributor)

"We are quite impressed with COPYLINK and have chosen it over all others we have evaluated."

Computer Shopper

"For all-around power and flexibility, COPYLINK is outstanding... user friendly with clearcut English style commands. Not being forced to go through a tedious menu every time... is something the regular communicator will appreciate."

Microcomputing magazine dubs it "The Strongest Link."

"COPYLINK is one of the most powerful data communications packages available at any price. The fact that it can be purchased for less than \$100 makes it the best communications value on the market today..."

Soft Sector

"The remote (unattended) aspects of COPYLINK may prove to be one of its best features... I chose COPYLINK as my first choice in communications software."

OnLine Today magazine

"The (COPYLINK) program is excellent..."

OTHER HIGH QUALITY PRODUCTS

MERCHANDISER is an excellent Point of Sale/Inventory Control/Mailing List program for computer dealers and other retail stores. For MSDOS, this compiled dBase II program is a fast menu-driven package integrating Counter Sales, Inventory Management, Receiving, Credit/Returns, Customer Mailing Lists and a Vendor Phone Directory. Muffler shops, bicycle stores, dress shops, stereo stores, you name it - a wide vertical market that dealers understand. Available on consignment to dealers. . . . \$595

CPeMulator makes your MSDOS or PC DOS computer (including MBC 550/555) act like a CP/M-80 machine so you can actually run CP/M software without any trouble or additional hardware. . . . \$99.95

Please call today

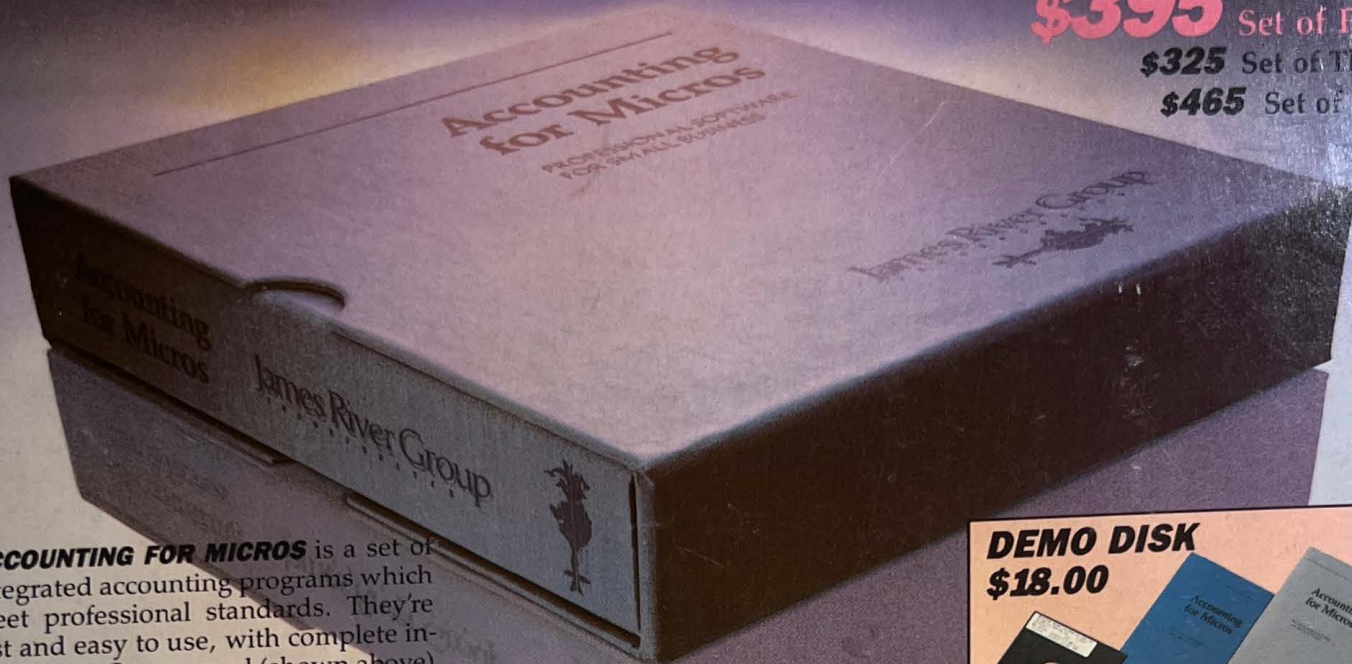
Quality Software for Entrepreneurs
U.S. DIGITAL™



PREP is a home accounting program that makes it simple to keep track of expenses. A first-time user will have absolutely no difficulty. PREP handles up to 250 expense categories which you can easily define (and redefine). PREP quickly reconciles monthly bank statements, keeps track of what you're spending in different areas, credit and cash transactions, compares month-to-month, spending patterns etc. Totally flexible (you can even change the balance). Demos nicely. . . . \$59.95

ACCOUNTING FOR MICROS

\$395 Set of Four
\$325 Set of Three
\$465 Set of Five



ACCOUNTING FOR MICROS is a set of integrated accounting programs which meet professional standards. They're fast and easy to use, with complete instructions. Our manual (shown above) also includes helpful information on bookkeeping and computers.

GENERAL LEDGER \$125
 Allows up to 1,000 accounts & 1,000 transactions/month. Retains mo/end balances for Last year, This Year and Forecast. Includes Cash Disbursements, Cash Receipts and General Journals. Reports include Balance Sheet, Income Statement, Annual Summaries and Journal Reports.

ACCOUNTS RECEIVABLE \$125
 Allows up to 2,500 customers and 1,000 invoices per month. Invoicing can access Inventory Module. Keeps customer names and addresses. Invoice prints on plain paper or any pre-printed form. Statements can be printed at any time.

INVENTORY \$125
 Allows up to 4,000 parts. Keeps 3 month history of unit sales as well as year to date. With AR, can be used as point of sale system (prints invoices, handles cash). Reports include Inventory Value and Stock Report, Internal and Customer Price List.

ACCOUNTS PAYABLE \$125
 Allows up to 500 vendors and 600 invoices/mo. Records invoices and handwritten checks. Prints computer checks on any pre-printed form. Keeps vendor names and addresses.

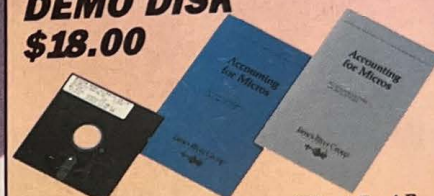
PAYROLL \$125
 Will handle up to 100 employees with eight deductions per employee. Deductions may be determined as fixed dollar amounts or percentages, or referred to a table for automatic look-up. Tax tables are easily entered, or purchased separately. Prints checks and W2's.

SET OF FIVE \$465
SET OF FOUR \$395
SET OF THREE \$325

RUN ON MOST CPM AND MSDOS

Apple CPM	IBM PC,XT,PC jr,AT	Sanyo (all)
Columbia	Kaypro (all)	Tandy (all)
Compaq	Morrow (all)	TeleVideo
Corona	Osborne (all)	Zenith 100 & 150
Eagle (all)	Panasonic	8" CPM
Epson QX-10	Radio Shack CPM	Other compatibles

DEMO DISK \$18.00



Try all 5 programs above (GL, AR, AP, IN, PR). Order our DEMO DISK for \$18.00 (includes shipping). Condensed versions of the programs give you the "feel" of data entry and access. Includes sample reports and instructions. Specify machine.

TMAN \$125
 The "Catch-All" program. Files any type of information for quick access. Name or subject oriented with 15 lines of notes per name. Use TMAN as a mailing list, filing system, notebook, etc. Can be used alone or with data from our other programs.
 Try **TMAN DEMO \$16**

HOW TO ORDER: Please specify machine and disk format. You can pay by check, by VISA or MasterCard (we need your expiration date and card number), or by UPS COD (add \$2.50 COD charge). Our price includes shipping. Minnesota residents, add 6% sales tax. We ship most orders the same day.
 or **ORDER BY PHONE: 612-339-2521**

James River Group
 I N C O R P O R A T E D



(612)339-2521

125 North First Street
 Minneapolis, MN 55401